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HANDBOOK OF PRACTICE
FOR TEACHERS

PRACTICAL DIRECTIONS
FOR
MANAGEMENT AND INSTRUCTION



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HANDBOOK OF PRACTICE FOR TEACHERS

PRACTICAL DIRECTIONS
FOR
MANAGEMENT AND INSTRUCTION

BY

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PREFACE

THIS Handbook has a definite practical purpose, as follows :

1. On the basis of experience in training and supervising teachers to point out a few of the positive requirements and limitations of schoolroom work.
2. In order to get economy of time and effort, to state plainly the chief principles and conditions for securing efficiency.
3. To set up concisely the standards and essentials of schoolroom practice.
4. To point out common faults and bad habits.
5. To show briefly the peculiar requirements of each common school study.
6. To give help and guidance to young teachers and to remind older teachers of wrong tendencies.
7. To suggest points of value to superintendents and supervisors.

American teachers as a body are progressive and are in a developing process. They must grow while they teach.

This book is particularly designed for use in Normal and Training schools.

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HANDBOOK OF PRACTICE FOR TEACHERS

CHAPTER I

SUGGESTIONS ON MANAGEMENT

1. *Management*

1. Few and quiet signals are indicative of strength in discipline. Be not noisy and demonstrative in securing order.
2. Be deliberate and self-controlled in all matters of discipline. Keep down excitement and anger.
3. Make but few requirements and only after full deliberation. Every order issued by the teacher amounts to a rule upon which his reputation is staked.
4. In the main use suggestion rather than command.
5. Cultivate firmness and decision with gentleness.
6. Good discipline is consistent and steady, not variable and inconstant.
7. Deal promptly with individuals for any plain disorder so that the infection of disorder may not spread.

8. Do not forget and neglect your own requirements.

9. One important rule or requirement steadily and persistently executed will sometimes settle the question of control and good order.

10. Make a point of controlling the school or the class through your own influence and authority. Take advice from the principal but use self-reliance in room control.

11. Be fair-minded and just. Secure the respect of children by honest dealing. Justice is the fundamental school virtue.

12. Good discipline leads the children gradually to self-control and self-direction.

13. The best discipline is that which is so quiet and natural that it becomes invisible. The teacher's authority is swallowed up and disappears in the proper school activities.

14. Keeping children steadily and profitably occupied with school work is the chief means of maintaining good order. Push the work vigorously, and many disorders will disappear.

15. Be slow in attributing fault to a child. Be slow to take offense because of a child's peculiar actions or disposition.

16. Children should be treated with courtesy, with real courtesy; that is, one should have a genuine respect for a child's feelings and person.

17. Do not censure trifling errors severely. If so, you cannot emphasize serious faults.

18. Scolding the school is a bad habit to fall into. Avoid censuring a child in the class and before the school. In general reprove privately and make the reproof effective.

19. Do not worry over little noises and disturbances, if the children are working heartily.

20. Use your eyes, see what is going on in the room, but overlook many trivial things.

21. Have pupils pass through the halls quietly, promptly, and in line. Execute room movements promptly and economically.

22. Competing with children in smartness is not worthy of a teacher.

23. Do not punish the whole class for the fault of one or two.

24. Children should not be boisterous in the school house. Outdoors is the place for rougher sports.

25. Corporal punishment is only for extreme cases, a last resort.

26. In dealing with parents use patience and courtesy; show them fully and fairly both sides of the question in dispute. Be fair and reasonable.

27. Management requires thoughtful deliberation, prompt executive energy, and judicial fairness. These three superior qualities are not easily combined in one person. Each teacher must school himself

into a complex habit which unites these contrasted qualities into a working unity.

28. The skillful management of children is a social art based (1) upon insight into one's own feelings and volitional attitudes, and (2) upon the individual and social impulses that reveal themselves in the life and actions of children. In other words, one must understand himself and appreciate children.

29. Government necessarily means control, and more or less conflict of wills. How to adjust the will of the teacher to the will of the child and to the combined social will of the school is the ticklish problem. It demands a well-balanced combination of the three virtues above mentioned.

30. Give the children full credit for having wills that deserve to be wisely guided, and turned into proper channels of habit until freedom of self-control, based upon knowledge of what is right and fitting in conduct, is developed.

31. The spirit of good will and coöperation, and the deliberate purpose to practice even-handed justice, furnish the moral basis for school government.

2. Class Control combined with Room Control

1. Before beginning the recitation provide the study class with plenty of work to do and make the conditions orderly and favorable to its execution.

2. Let the study class work according to a program posted on the blackboard, and showing the plan for each day in the week. The study class should not be noisy and intrusive but quiet and self-directive.
3. Let the teacher take a good position before the class reciting and not too near the pupils.
4. Keep the class together and closely attentive to the teacher's presentation of a topic, to blackboard demonstrations, and to discussions and reproductions by the pupils. Unity of class spirit in a combined effort is the ideal class status.
5. In concert work by the whole class, in oral drills and tests, make the class effort quick and energetic. Alternate individual and concert drills.
6. Shift the work back and forth between the slow pupils and the quick ones. Do not wait too long for the slower pupils and give the brighter pupils a good share of attention. Poorer pupils may need a second and a third chance.
7. With a class at the blackboard, watch all the pupils and keep them busy, correcting errors with speed, preventing copying, and holding to a standard of neatness and good form.
8. Keep up the class spirit, but do not lose sight of individuals. This requires alertness and quick transitions from the whole class to individuals and *vice versa*.
9. Get a proper distribution of work among the members of the class so that none are neglected or left idle.

10. Have extra work in readiness for brighter pupils while the slower ones are receiving special help. Extra reference work, special problems, etc., should be provided beforehand.

11. Children should be held to a firm standing position while reciting. In questions and class discussions avoid hand shaking and other excessive demonstrations. Self-control and moderation in pupils' behavior are the standard.

12. Let pupils speak out in full tones so as to be clearly heard. Use such devices and such ingenuity as may be necessary to encourage timid pupils to speak clearly and confidently.

13. Encourage children to watch each other sharply for errors or omissions, but without unkind and trifling criticism. A helpful, rather than critical spirit should be encouraged.

14. The more forward children are to be held in check, and the modest, retiring ones encouraged and called into action.

15. Save time by quick class movements and well-planned, orderly arrangement of children at the blackboard.

3. Orderliness in School Housekeeping

1. Care and thoughtfulness should be given to the heating and ventilating of the room. Proper

use of windows, doors, and transoms, without exposing children to drafts. Attention to the thermometer and to janitor service require coöperation.

2. During physical exercises and at recess especial additional fresh-air ventilation may be provided for.

3. The lighting from the windows should be regulated and modified by shades, according to the conditions of the weather, sunshine, morning and afternoon sun, and effects upon blackboards.

4. A carefully devised program for the day and week should be placed where it can be easily seen by all and should be followed, in the main, so as to establish habits of study and diligent attention to school duties. A reliable clock will aid materially in such a plan.

5. The desks and tables throughout the room should be kept in neat and orderly condition. Waste papers and rubbish should be collected by passing the waste basket.

6. Reference and library books may be conveniently placed for use by the children and left in their proper place and position after use. The children may well be trained to this sort of order and neatness.

7. A plan for the definite uses, care, and cleaning of the blackboards needs to be worked out. One part may be required for the daily and weekly program. Other parts should be used regularly for the assignment of seat or home lessons. Still another may be

used for class demonstrations, especially by the teacher in Arithmetic, Geography, History, etc. Other parts of the blackboard may be reserved for the uses of children who are sent to the board for problems, map drawing, composition, etc. Unused work should be erased and the boards kept clear.

8. The maps, globes, charts, pictures, and object material used for demonstration purposes should be kept in orderly fashion in suitable receptacles and used according to well-devised plans. Paper, pencils, ink, and drawing utensils require a like carefulness and orderliness. Materials and tools for construction, book binding and sewing, or weaving and shop work require systematic, businesslike disposal and regulation. Orderliness and system in all these details are indispensable. There should be adequate places of storage and time-saving devices for distributing and collecting tools and materials.

9. The movements of children by classes and as individuals about the schoolroom should be quick, orderly, and time-saving. It is a pleasure to see the speed and quiet with which these movements are made in a well-ordered school.

10. The element of decoration is now entering as a dominant note in the schoolroom environment. Plants and flowers, pictures and statuary, are prevailing influences, and teachers are giving their attention to the proper placing and harmony of these decorative

elements. The tinting of walls, the superior wood finishes, the use of the childrens' drawings and paper work add much to these pleasing schoolroom effects. When we add to this good music, folk songs and dances, and dramatization we have a very important group of æsthetic and culture elements that is making its influence strongly felt.

11. School property, books, furniture, equipment, and buildings, also grounds, trees, and shrubbery, deserve to be scrupulously respected and cherished. The old-fashioned carving of desks and marring of buildings, the defacing of walls, and other vandalisms are rapidly becoming obsolete. The social and æsthetic spirit are becoming dominant and such lawless acts are felt to be inappropriate.

12. Cleanliness in rooms, toilets, halls, and basement, the avoidance of dust on floors, blackboards, and furniture, neatness and cleanliness in the person and dress of children are very essential elements in the right sanitation of schoolrooms.

13. First-class sanitary conditions as provided for by the thoughtful attention of teachers, and reënforced by the trained nurse and medical inspection, provision in all ways against contagious and infectious diseases, — these are not luxuries but absolute essentials for the care and protection of children and for the happiness and welfare of the homes represented.

CHAPTER II

TEACHERS

1. Superintendents, Supervisors, and Critics

1. Superintendents and supervisors represent the larger experience, the matured judgment, the combination of comprehensive theory with daily practice, which are needed to guide and encourage the less experienced in their difficult work.

2. The function of critics and of superintendents who closely supervise young teachers is that of giving them advice and direction so that they will make as few mistakes as possible and waste the least amount of time in finding their way into skilled habits of teaching. Working under the direction of a wise and skillful critic, the beginning teacher should gain rapidly in ability to manage and teach a school and should be saved from years of more or less wasted and misdirected effort. Young teachers should not be allowed to form habits which, at a later time, will have to be laboriously corrected.

3. The superintendent is the connecting link between the different teachers and grades. He repre-

sents the larger, continuous aims of the school, and the principle of continuity in growth and organization. The underlying principles of the course of study and the broader aims of education are in his mind, and he seeks to bring all of his teachers into coöperation for these common ends.

4. To keep himself in touch with the actual difficulties of teachers, it were well for the superintendent to do some real teaching, not in the form of occasional interruptions of teachers in their class work, but in the handling of classes in complete recitations, in which the preparation and assignment of lessons are included and the topics are fully worked out. If the clerical and administrative duties of superintendents and principals can be diminished so as to leave time for some teaching, it will be of practical service to all concerned.

5. The critic should first of all encourage and stimulate the young teachers, exercising at the same time a frank criticism of faults and errors. In combining encouragement with criticism the critic is a reconciler of contradictions. Criticism should not usually leave the sting of discouragement.

6. The critic or supervisor has the difficult task of exercising a dominating influence over the school and over the younger teachers, while keeping herself in the background. The critic and the beginner must get into such close relationship that the younger

teacher embodies the spirit and energy of the critic without feeling cramped or overruled in her actions. In other words, young teachers should maintain their freedom and independence while under the helpful guidance of the critic.

7. To perform this task the critic should be accessible and companionable, and clearly wise and practical in her advice and suggestions. She must know how to encourage and to throw responsibility upon others.

8. The supervisor or critic is the exponent of the two opposite poles of education, strong ideals and practical skill in execution.

9. The critic should be fertile in ways and means of illustrating to young teachers the better modes of procedure, and likewise in showing up the weaknesses of faulty methods.

10. Critic teachers should follow a systematic plan of doing some daily regular teaching as a means of guidance and illustration to younger teachers.

11. Illustrative lessons, taught in the presence of a number of older and younger teachers and then freely discussed, are a source of strength, because they greatly emphasize main features of instruction and give a broader interpretation to principles.

12. In the variety and complexity of teaching processes, young teachers are slow to discriminate between important and unimportant ideas and

methods. The observation, discussion, and criticism of lessons should steadily open their eyes to these essentials.

13. Every supervisor and critic should make a business each term of working out elaborately, one or more of the larger topics or units of study which hold an important place in some school subject. This is a piece of original work that calls for a recombination of the principles of organization as applied to a rich body of knowledge.

14. The majority of teachers in the United States have had little if any professional preparation. They are in the process of growth from crude into rational methods. The responsibility of superintendents and supervisors for the steady growth and improvement of teachers in their work is correspondingly great.

2. General Character and Qualifications of a Teacher

1. Teachers should cultivate a liberal, magnanimous mental attitude in contrast to littleness, narrowness, and pedantry.

2. They should be well-balanced, steady and judicious in temper, not given to excess or partisanship, not moody and freakish or violent in temper. Self-control, resulting in moderation and reasonableness, expresses the spirit of a teacher and leader.

3. Manifest cheerfulness and heartiness of manner

in dealing with young people predispose them in one's favor.

4. A many-sided, intelligent sympathy with all sorts of young people, the ability to put yourself in another's place and appreciate his situation and feelings is an important asset. This implies breadth and catholicity of mind, a friendly and helpful attitude toward others, and an appreciation of varieties of talent, disposition, and personal character.

5. Truth, sincerity, and frankness in one's conduct and dealings with young people are at a high premium.

6. A teacher who is prepared for his work is earnest and energetic. He feels a serious responsibility and has aims and standards in view that require strenuous and continuous effort.

7. On the basis of experience and matured conviction, he is prompt, decisive, and steadily progressive in his efforts.

8. He is clear-headed in his plans and scholarly in thought and speech.

9. His standards of thoroughness and mastery in school studies have been thought out in proper adjustment to the age and capacity of children.

10. A pronounced flexibility of temper, and a quick versatility in shifting one's point of view to meet new conditions and different personalities are a necessity for teachers.

11. Ingenuity in planning new methods of study

and resourcefulness in the details of discipline and instruction should be constantly cultivated.

12. Teachers can afford to lay their plans to be physically fresh and vigorous so as to meet school duties in good temper and with a strong healthy tone.

13. In dress and manner care should be exercised to be neat, tasteful, and attractive. Good manners and suitable dress and care as to one's person are an important expression of respect for one's calling and for the children.

14. A teacher will hold his own better in all respects if he is well posted in matters of general information. Such knowledge commands respect and shows a broader adjustment to life experience as a whole. In general lessons before the school a teacher may do much for young people to open their eyes to many important problems in the larger life out of school, which they will soon have to meet. These are things, too, which children are anxious to know about.

15. In his whole character and attitude, in school and out, a teacher should be exemplary without affectation. That is, he is a plain and definite example of right things, one who illustrates in conduct what he attempts to realize in the children.

16. On account of the increasingly social character of the school, social temper and adroitness on the teacher's part have become one of his essential qualifications. The interpretation and guidance of

social spirit in school groupings and combinations among the young become one of the teacher's chief functions.

17. A ready social adjustment and freedom of contact with the homes, with business and church and social activities, representing broader life and interests of the community, are essential qualities in the teacher's make-up.

18. Teachers are entitled to a feeling of pride in the exercise of their professional skill and efficiency. One who is a distinct expert in the management and instruction of the young, deserves a professional standing based upon the highest merit. Teachers themselves should prize such skill as a high distinction and work to attain it as their most distinctive and worthy achievement.

19. Besides the broad liberal qualifications that belong to the teacher by virtue of his leadership in guiding children into those general forms of knowledge and culture common and essential to all, he requires special and peculiar mental qualities in the particular subjects of study, as imagination and humor in literature, logical precision in arithmetic, motor skill in manual arts, etc.

20. The teacher is a liberal-conservative who combines widely variant aims and superiorities in one person. He is a practical utilitarian and a hopeful idealist.

21. A wise teacher is liberal-minded and helpful toward his co-workers, and not given to criticism and complaints against his associates. Criticising the work done by a previous teacher is not in good taste. Complaining to others that a class is dull or stupid shows lack of sympathy.

22. The teacher represents a very wide range of interests in knowledge, whether in nature or in human and social affairs. These elementary subjects broaden out more and more into the limitless fields of knowledge. The teacher also looks ahead and forecasts the child's future work, his possible vocational fitness. It is the business of the teacher in all his activities to be scholarly, progressive, versatile, with many-sided interests for the present and the future.

3. *Difficulties and Faults of Inexperienced Teachers*

1. There is not a sufficient breadth of attention to cover the wide range of things requiring simultaneous notice. The teacher learns gradually to manage several things at the same time. Teaching requires the formation of a complex habit of attention with alertness and quick adjustment to many things. The young teacher is called upon to meet this exigency by wise planning and forethought and by much afterthought and reflection upon his previous actions.

2. In matters of discipline there is a lack of that

quiet decision and promptness in action that command the respect and confidence of children. On the one side there may be overanxiety and indecision, on the other side, haste and severity of treatment. Young teachers are likely to make the mistake of being too stiff and arbitrary or too easy and indulgent.

3. In meeting emergencies in discipline young teachers often issue their orders hastily or without reflection and make threats against violations. Hasty orders and threats are dangerous. The teacher may easily forget to execute them or he may not wish to execute them when the time comes. Oftentimes a threat is a failure to do what ought to be done now. It is better to meet emergencies as they arise.

4. The keenest need felt by young teachers, who are not at first strong in discipline, is some means of establishing their authority, some immediate devices of control for quelling incipient disorder. Prompt, decisive action is required to check the beginnings of disorder. By reflection and ingenuity young teachers must think out those modes of action by which they may reënforce their personality at the moment of trial. Curiously, many little noises and disturbances can be overlooked. The teacher must have a blind eye to many such trivialities and a quick perception for those cases where the question of order is really at stake.

5. Young teachers are naturally deficient in the power to organize new subject matter, especially in

complex topics which are treated orally, without a textbook. This weakness appears first in projecting the main outline of leading points and second in the effort to adhere to such an outline in presenting and discussing the subject matter. This is due to a failure to observe a logical or causal sequence in the topics, and again in the inability to discriminate between important and unimportant ideas and facts.

6. Young teachers are especially defective in seeing clearly the fundamental lines of thought that run through a whole study. In arithmetic or language certain principles run through the course in the grades. Somehow the textbooks fail to bring out this connectedness and continuity of thought and the responsibility lies mainly upon the teacher. Mature and careful teachers discover this underlying unity and make it the basis of their best thought work for children.

7. Young teachers are accustomed to run too rapidly over the main topics in a textbook. In arithmetic, for example, they fail to realize how much drill, what variety of oral problems in applications of all sorts, is necessary to master percentage and other topics.

8. In the classroom young teachers often fail to keep up steady class attention. They become interested in individuals and lose sight of and control of the class. They have not yet learned to strike first

for strong class attention and incidentally keep an eye on individuals who require occasional attention. Teachers should cultivate a double form of attention.

9. In oral work and in the discussion of topics, beginning teachers drift too much into a development method. They are afraid of telling the children a few necessary things. They overdo the principle of allowing children to think things out for themselves.

10. On the other hand, teachers help children too much by asking them too many easy questions. Thus arises loose and inconsequent discussion and much loss of time. This brings out the fact that teachers are not skillful in withholding help when it is not needed and in giving it in cases of real need. One should, as it were, see into a child's mind and determine wisely whether he needs to be thrown back upon his own resources or is in deep water and requires help.

11. Young teachers often fail to make important ideas in the lesson definite and clear to pupils' understanding. At the end of the recitation not much real progress has been made in the clarification of ideas. The class may be seemingly attentive and the work progressive, but there is a sort of haze in the intellectual atmosphere. Things are not sharply defined.

12. Often there is more or less of interesting talk and discussion, but the children fail to sum up the

matter and give a clear and adequate statement of results. In most lessons teachers should see to it that the important ideas and facts are well clinched.

13. Young teachers often lack in clearness and simplicity of speech. As quickly as possible they should adjust themselves to the needs of children. Some young teachers, taking their cue from their elders, talk too much.

14. In assigning lessons, it is easy to give too much, and careful judgment is required. Often the assignment is indefinite and ambiguous. A class will soon go to pieces on poor assignments. Reference work should be precise, noting chapter and pages.

15. At first teachers are naturally deficient in resourcefulness with respect to illustrative materials and devices. Steady improvement in the ability to illustrate and concrete ideas is a professional obligation upon every teacher.

4. Growth of Teachers

Teachers, while engaged in their professional duties, have unusual opportunity for growth. In fact, one can hardly be a good teacher without constantly improving and expanding one's mental resources. Some of the ways in which a progressive and spirited teacher may grow in culture and professional resources are pointed out as follows :

1. A few important professional books should find their way, not simply into the teacher's library, but also into his more serious thought, having been carefully read and digested. A few of the interesting and vital books may be mentioned as follows: Herbert Spencer's "Education," James' "Talks to Teachers," Rousseau's "Emile," De Guimp's "Life of Pestalozzi," Quick's "Educational Reformers," Locke's "Thoughts on Education," Monroe's "History of Education," Pestalozzi's "Leonard and Gertrude," Kirkpatrick's "Fundamentals of Child Study."
2. Summer sessions at the Normal Schools and Universities offer not only stimulating and practical courses in pedagogical subjects, but also full courses in literature, history, natural science, language, mathematics, and all the academic subjects.
3. If a teacher wishes to specialize in some chosen field of study, as in history or science, the summer schools, libraries, and laboratories are at his disposal, and, without giving up the regular work of instruction, many teachers are pursuing advance courses and fitting themselves for higher specialized forms of teaching.
4. The long summer vacations are also used for travel in this country and Europe. The experiences and broader outlook upon the world supplied by travel are among the important agencies for the better equipment of teachers, especially in common school work.

5. A knowledge of local affairs, of the details of town and municipal problems, of current events in the larger world of business, politics, and social reform is a desirable outfit for teachers. A familiarity with history, economics, and sociology of the practical sort, which enables one to discuss current events with children, is a very important equipment for the teacher. The general exercises in which such matters are discussed are a valuable means of opening the minds of children to many worldly and useful matters not dealt with in school studies.

6. In addition to the general carefulness and efficiency of his work, each teacher should be engaged in some special field of instruction, in which he is elaborating from time to time, complete and more fully organized topics, as demonstrations of matured and even artistic teaching. One cannot do this in all subjects at the same time, nor in several topics at once. But picking out some important unit of study, in a favorite subject, the teacher should collect and organize a superior body of knowledge, commit it to writing, and execute the plan in full in the classroom.

This is a kind of specialization in which every teacher can engage with the highest profit. The ability to do this kind of work in one study is likely to spread its influence to others.

7. Some teachers prefer departmental teaching in

one or two subjects. This requires special richness and mastery of knowledge in those subjects, and has the advantage of creating greater interest in both teachers and classes. Preparation for this quality of work can be made at the advanced schools, or by the special elaboration of topics as suggested above.

8. For the general body of teachers the most significant line of advance is found in extending one's acquaintance with school studies beyond the textbooks into the more lively and interesting material found in good literature, in history, science, and geography. The textbooks offer but a meager diet either for teachers or children. Just beyond these textbook outlines and condensations is a remarkably fruitful range of studies in special books and periodicals, geographical magazines, biography and travel, which furnish all that is desirable as a reënforcement for genuine instruction. Such books are abundant and are being rapidly supplied in the main studies.

9. In this country, where many teachers undertake their work without adequate preparation, it is especially desirable that they should utilize these various means for professional improvement and advance.

CHAPTER III

CHILDREN

1. Child Study

1. Reasons why teachers should make some special effort to understand children :

a. Children are distinctly and radically different from grown people.

b. Most of us as adults are a little out of sympathy with children and are disposed to set up the same standards for them as for adults.

c. The formality of school discipline and instruction keeps us at a distance from children and prevents us often from understanding them.

d. Because of misjudging children we make mistakes in managing and instructing them.

e. Children show their individual traits in a great variety of ways, and we must cultivate the power of insight and of interpretation of their actions.

f. More than anything else we need to understand children, not only in their normal intellectual activities, but in their bodily states and defects, their feelings, impulses, and interests at different stages of growth.

2. "To study the outer and inner factors of human development, and to determine how the inner factors are modified by the outer, is the work of child study." (Kirkpatrick.)

3. Some children in a school are deserving of individual study, *i.e.* of closer observation and of deliberate effort to understand, and rightly interpret them. There are indeed special and peculiar cases, even incorrigibles. Some of these ought to be isolated from the school and receive special attention from those who have time for it.

4. The natural groupings of children according to social instinct also deserve study: the ways in which they influence one another, their modes of coöperation, and their antagonisms.

5. The natural leaders in a school are to be noted and their influence gained and guided by the teacher.

6. The physical defects and diseases of children have become an important object of study, with the purpose of improving health and sanitary conditions in the school. Teachers and parents alike have overlooked ailments of throat and nose, and defects of seeing and hearing; but now a closer and more efficient inspection of these troubles is demanded in which teachers and nurses or medical experts coöperate.

7. Children express themselves far more freely out of doors and at play than under the constraints

of the school. The playground offers a favorable opportunity for discovering children's dispositions and peculiarities. Even the games and rhythmic actions of the schoolroom open children's minds and feelings so that we can look in. Outdoor excursions are also a means of closer companionship and acquaintance.

8. When children become really interested in their school studies, and when they are allowed initiative and responsibility for doing things, their real character comes out for inspection.

9. Teachers should observe the instinctive interests of children as they spring up, grow strong, and in turn give way to those later arising. These interests may be drawn into close relation to some of the school studies.

10. What are called children's books, especially those that really appeal to them, are deserving of study as a means of child interpretation. A good story is a revelation of the child's self, and its effect can be seen. The reading and reproduction of suitable stories and poems with children give an excellent phase of child study.

11. Respect for the rights and privileges of children is a first duty of teachers. Many children are very sensitive to any courtesy or injustice on the part of their elders.

12. A few of the helpful books on child study may be noted as follows: "Fundamentals of Child Study,"

Kirkpatrick; "Children's Rights," Wiggin; "The Development of the Child," Oppenheim; "Diary of a Western Schoolmaster," Stableton; "Being a Boy," Warner; "Story of a Bad Boy," Aldrich.

2. Common Faults of Children

The faults mentioned below may be partly due to the school, partly to the home, and partly to other influences.

1. There is a lack of strong power of attention or concentration of effort in study and in classroom work. The influence of the school should be to cultivate and strengthen this power. Our common school standards in this respect should be put at a higher mark. A flitting attention and vagrancy of thought are too much permitted in classrooms.
2. A deficiency of independent thinking and self-reliant effort is seen on the part of older children. The school should be constantly setting up problems which call out self-activity and self-reliance.
3. In the schoolroom children often talk in low and indistinct tones. A habit of timidity and lack of confidence is developed which interferes with good classroom work.
4. Very commonly children fail to express thought in complete sentences, and in connected discourse. They answer and recite too much in fragments and

broken sentences. The ability to express thought in a series of connected statements in a whole paragraph or topic requires steady cultivation. The habit of using faulty English and slang is so common that the school is obliged to set up a good standard of speech.

5. Children easily form the habit of raising the hand and shaking it violently in class work. It is a disturbing habit, discourteous to the one reciting and tending to undue nervous excitement of the class as a whole. Quiet manners and self-control are more conducive to good thinking and reciting.

6. Children stand in a lounging position at their seats and desks while reciting. Such an attitude is disorderly, careless, and lowers the tone of the class recitation.

7. During study periods children sit in careless and lounging positions, and show by their bodily attitude a relaxed mental state.

8. In the regular written work of the schools, children hand in papers that are torn, careless, and poorly written. Boys especially are negligent and produce unsightly papers. Teachers should hold to standards of neatness and correctness.

9. In some classes children talk out too freely when not called upon, showing a boldness bordering on insubordination. Let them express themselves when called upon, and with self-control and courtesy.

10. Some children are careless and slovenly in personal habits. For their own sake and for the sake of the other children, they should be required to be clean and neat.

11. Carelessness in scattering waste papers and scraps, and a disorderly condition in the desks, easily develop in schools. Desks should be kept in orderly form and the waste basket passed regularly.

12. Children, even from good families, sometimes become sly and tricky in little disorders, disturbing the discipline and social welfare of the school. Prompt and decisive measures are required to establish respect and authority.

13. Children studying together from the same book usually do more visiting than studying, and create disturbance. It is a concession that lowers the standard of efficient work.

14. Some children practice rude and unsocial actions on the playground. The plays and recesses of the children require watchful supervision.

3. Social Combinations among Children, Beneficial and Hurtful

The natural social spirit among young folks prompts them to combine their forces and to coöperate in larger and smaller groups for common ends. These social combinations are sometimes helpful in reënforcing

the proper work of the school. In other cases they are antagonistic and damaging to its welfare. A wise teacher will learn to be shrewd in interpreting and directing the social tendencies and aims of young people. The social intelligence of teachers should be liberal and sympathetic as a means of understanding their affinities and motives.

The social spirit of young people manifests itself in some of its beneficial ways as follows :

1. In music and singing. In fact, music is one of the best modes of inducting children into the higher phases of congenial thought and sentiment.
2. The class discussion of interesting topics, especially those having a social importance touching the welfare of many persons. Topics for general exercises should also reveal this elevating social value.
3. Coöperation in working up and presenting plays and dramatic performances. Such exercises, well conducted, have a wide-reaching social and practical value for all concerned.
4. The folk dances and rhythm work of primary classes introduce children, in the happiest way, to social proprieties and right social spirit.
5. The games of children, both within doors and out, may be directed so as to express the joy and love of action in children in coöperative ways.
6. Gymnastic drills and group exercises.
7. The marching to music in passing to and fro.

8. Some of the economies of schoolroom organization are best provided for by social helpfulness, as in the distribution or collection by the children of books, papers, pencils, paint boxes, scissors, and other materials and tools.

9. Spelling matches and other contests may be conducted so as to develop a lively and cordial spirit.

10. The working out of group constructions and projects in the manual arts, and in schoolroom decoration, in making furniture for school uses, etc.

11. In societies and debating clubs properly conducted, this coöperative spirit can be encouraged, and the social leaders brought out.

12. Outdoor excursions and nature study trips are socially important.

Some of the hurtful tendencies along social lines may be designated as follows:

1. Connivance in various forms of mischief, as in note writing, whispering, disturbing noises with hands or feet, common obstinacy in not learning or reciting lessons, etc.

2. Noisy and boisterous actions in class marching and movements.

3. A disposition to conceal or cover up wrong actions and practices on the ground of not exposing one another. No tattling, etc.

4. Disturbing and more or less noisy demonstrations in the class; pertness in talking out and interrupting teacher and class.
5. A spirit of sullenness or resentment exhibited by a whole class because of some mistake or fault of the teacher.
6. The formation of cliques and of small social groups of a narrow or exclusive sort, clannish among themselves and unfriendly toward others.
7. The formation of groups in which a covert or secret antagonism toward the teacher is developed.
8. Excessive rivalry for prizes, high standing in classes, or distinctions, produces unsocial and hostile feelings.
9. In certain groups, in and out of the school, complaining gossips bring on antagonism against the teacher.

The strong leadership of individuals in these various forms of grouping, and the social response of the members under such leadership, deserve the teacher's thoughtful and unprejudiced study.

The combining or coöperating spirit is strong in children. The teacher's business is not to suppress it, but to give it direction, to bring it into such forms as reënforce the true life and activity of the school as a social organization. The proper socializing of children through the various coöperative agencies of the school, by setting up social ideals and by encour-

aging appropriate conduct, is one of the highest functions of the school.

The social groupings and tendencies of children and youth have become more recently an important object of study for educators. For the best uses in teaching the study of sociology is rapidly developing into an importance quite equal to that of psychology.

CHAPTER IV

CLASSROOM INSTRUCTION

1. The Planning of Lessons for Classroom Work

1. The planning of lessons should be based first of all upon the larger topic or whole which is being treated in a series of lessons. The lesson for a single day is usually but a fragment of this large topic. For example, the process of adding fractions is such a topic. A poem like "The Barefoot Boy," or a story like "The Great Stone Face," is such a complete topic involving a series of lessons. In history or geography one of the larger topics, like "Burgoyne's Invasion," or "The Rhine River," or the "Sahara Desert," may require a dozen lessons for a proper treatment.

2. In planning lessons the basal idea in one of these large topics should be grasped as the organizing principle which determines the sequence of main headings. To explain and clear up this idea, to show its importance and value in the world, is the purpose of the series of lessons. In the growth of this idea is found the logical continuity of the whole topical treatment.

3. This topic should be thought of and worked out as a complete whole, without regard at first to the individual lessons and with complete mastery of the whole before the first lesson is taught. In fact, we cannot estimate accurately, at first, how many lessons will be required to complete the topic. As in the building of a house, the architect's plan is complete before the first day's work is begun.

4. In addition to this, young teachers should work out elaborately the individual lesson a day ahead, going into fuller details as to plan, method, and material. With growing experience and skill, this detailed planning can be much reduced. It is tedious and unnecessary to work out exact lesson plans several days ahead.

5. A strong logical or causal sequence, expressed in the form of a series of main headings, must be thought out as the framework for the whole topic. In doing this, one should learn to discriminate sharply between big central points and the subordinate facts or details which are grouped around them. One cannot make such plans without full and rich knowledge, nor without carefully weighing out and estimating relative values. The teacher is under the necessity of being a scholar and an organizing thinker.

6. A difficult question to settle is, how much of concrete data (illustrative or descriptive, facts or objects, pictures, maps and diagrams) is required to

bring out clearly the main organizing idea in the topic? In important topics a very rich background of illustrative and concrete material is necessary, much greater, indeed, than our textbooks usually supply. The teacher may become an expert in selecting and grouping this concrete data around the central points.

7. In getting the materials of such a large topic before children for their proper mastery and assimilation, the teacher must hold strongly to his well-planned outline. He will use skill in presentation, free discussion, question and answer, as important means for realizing the matured plan of organization.

8. On the basis of this plan the children will be held to a reasonably complete oral or written reproduction of the main substance of thought. Such reproductions and the free use of blackboard sketching or drawing, together with maps, pictures, and other modes of concrete illustration, are chiefly valuable as means for clarifying and emphasizing the simple basal outline of topics.

9. To work out a well-organized plan for the treatment of a topic requires studious, thoughtful, scholarly mental effort; to hold firmly to this outline through the shifting vicissitudes of lively class instruction and discussion is a far more difficult task.

10. In the full planning and treatment of such large topics, one danger is that of spreading out too much into interesting, multitudinous details. Excellent

teachers are tempted by the richness of the thought materials to overelaborate the topics and to run off on side issues. The main difficulty is that of keeping up a proper balance between the illustrative facts and details and the important central ideas.

11. In the oral presentation and discussion of these large topics each important heading often requires the solution of a problem, the thoughtful weighing of facts to reach some important result, *i.e.* independent thinking and reasoning. In many of these large topics we have simply a series of interesting and thought-provoking problems to solve, *e.g.* in history, geography, and science.

12. The fundamental idea involved in the development of one of these large topics needs to be released from the narrow local surroundings in which it is first clearly discovered and its applicability to a far wider field of experience shown. By comparisons on a wider scale, this larger, more nearly universal, meaning and value of the idea is gradually brought to light.

13. To institute and carry forward a series of comparisons by which a local concept expands into a national or even world idea, points out the second stage in the handling of a large topic. This step of comparison, with the inferences and enlargement of thought involved, opens up great possibilities to instruction. Teachers have been slow to seize this advantage and to develop this phase of progressive, self-reliant thinking.

14. The final step in this extended thought movement is a present-day application of this idea to society, a problem in which this idea is trying to realize itself under present conditions.

15. In working out the plan for individual daily lessons, on the basis of the larger plan of a whole topic, the special form of questions, the sort of illustrative examples, the use of pictures, maps and diagrams, board work, drills and reviews, the comparisons and applications can be worked out in detail.

16. In closing the treatment of one of these large topics a decisive test, oral or written, of the children's knowledge and mastery of the subject should be made. The principal or supervisor may do this to the best advantage. Success depends upon the thoroughness with which the class as a whole has accomplished its tasks.

17. These large topics constitute milestones in the children's progress in knowledge and thinking power. The careful planning or laying out of such topical campaigns of study and their classroom treatment involve the use of all the principles of classroom instruction.

2. Exercises not Involved in the Larger Organized Topics of Study

Much of the subject matter of school studies does not fall within the scope of the regular treatment of

these large well-organized topics of study. Besides important exercises, reviews and drills, there are formal elements to be mastered and a few odds and ends of useful knowledge which lie apart and must not be overlooked. Among them are the following:

1. The spelling of miscellaneous lists of words. Where rules of spelling can be worked out and applied, rules should be developed, but much of our spelling is arbitrary and exceptional.
2. The mastery of phonetic elements in primary reading as a means of more quickly acquiring the art of reading. This requires separate drills in the recognition and use of forms.
3. Special phonetic drill in intermediate and grammar grades is a side issue to reading.
4. Learning the use of dictionaries, encyclopedias, and reference books is a special art.
5. Important drills on miscellaneous names and places in geography, on facts and periods in history, should be provided.
6. Varied and repeated problems for speed and mastery in mental arithmetic; especially practical miscellaneous problems.
7. The quick sketching of maps in geography and history. Drills in latitude and longitude, etc.
8. Exercises in writing and the mastery of the formal elements in composition.
9. Dictation exercises in language work.

10. Grammatical analysis of sentences, and diagramming.
11. Physical exercises, games and gymnasial practice.
12. General exercises and current news.
13. The study of idioms and the correction of common errors in speech.
14. Review tests and examinations in various studies.

Even in the treatment of large well-organized topics of study, there is much danger of neglecting the reviews, drills, and tests on the facts and outlines. Teachers are prone to overlook the importance and even necessity of such exercises, and the children fail to fix the important facts and relations. We have made the frequent mistake of supposing that children will pick up these elements of knowledge incidentally without specific effort. Many things they do get indirectly, but thoroughness and mastery of knowledge are not gained by haphazard or careless methods.

3. Oral Instruction and the Development Method

1. The oral treatment of topics in contrast to the textbook method of study has come into general use, in the story-telling of primary grades, in handling geography, history, and nature study topics in intermediate grades, and even in treating important sub-

jects in upper grades. In some cases the subject matter is presented in the story-telling or lecture form by the teacher, in other cases a method of question and discussion, or development, is used.

2. The first essential for good oral instruction is the complete and thorough organization of the subject matter in the teacher's mind. The basis for such organization is a close logical series of main points for the whole topic, around which the necessary facts and ideas are grouped.

3. This organization of knowledge materials in an important topic, which includes not only the basal outline, but all the facts necessary to its proper elaboration, requires a high grade of constructive thinking. It presupposes not only a full knowledge of the subject, but original power in selecting the central ideas in the argument, their arrangement into an orderly series, and the artistic grouping of the interesting details about these centers.

4. It will not seem strange if many even experienced and capable teachers have not acquired much power in this difficult art of organization. Most of our teachers have been trained in textbook methods where the organization is given outright, and our schools have not been strong in working out plans for the original organization of new materials.

5. In oral instruction, young teachers should cultivate, next, the power of clear and logical presenta-

tion, on the basis of previous careful organization. Closely combined with this there should be marked skill in graphic illustration by the use of descriptive language or board sketches, maps, pictures, and other modes of objectification.

6. Experience has demonstrated that for young teachers it is quite difficult, in free oral instruction, to hold to this aforesaid outline of leading points. Severe discipline and considerable experience are necessary before this logical habit is acquired by teachers.

7. The second essential of good oral work is the satisfactory reproduction by the children of this presented material. Without this proof of attentiveness and mastery of the subject by the pupils, oral instruction falls to pieces and goes to waste.

8. A far more difficult problem, and one not to be undertaken too rashly, is that of developing a complex topic by means of questions, answers, and free discussion. This is the so-called "development process."

9. In our oral lessons in schools, there has been a strong tendency toward development instruction. It is a process of evolving the new subject matter, by means of questions based upon previous knowledge and experience and by means of discussions, in which the children are led to infer many facts and conclusions. In such oral work, however, many of the new facts must necessarily be presented by the teacher.

10. Development work, as commonly understood,

is based largely upon the proposition that we should not tell a child anything which he is able to discover or think out for himself. Young teachers seem to be naturally disposed to adopt this development form of instruction and to hold back from giving direct information in development lessons.

11. Even a small amount of reflection will convince us that development instruction is an extremely complicated and difficult mode of teaching. It presupposes an unusual mastery of the subject such as only experienced experts possess, a rare ability in asking questions, and an equally rare ability to guide free discussion along a predetermined logical line of thought.

12. Often our young and inexperienced teachers are not skillful in using a development method of instruction. Even if their material is well organized, they are easily drawn away upon side issues. They have not developed the judgment to discriminate between important and unimportant. They waste much valuable time in quizzing children about minor points, wrong statements, and suggestions in discussion that lead them astray. Development lessons easily degenerate into loose discussions, without reaching definite and tangible results.

13. In development work the manner of questioning should be subjected to close limitations. First, it should hold definitely and strongly to the main line

of thought. Second, a few central questions, striking in upon the main argument, are better than a large number of detailed questions. Third, questions that aim to bring out a child's previous knowledge, for apperceptive uses, must be very clear and well-judged.

14. In history, geography, and other studies treated orally, it is important to make sure that the essential facts are presented to children before calling upon them to reflect or draw conclusions. Teachers often make the mistake of trying to develop by questions facts which ought to be furnished by the teacher or from a book. See to it first that the conditions of thought, the necessary facts, are present in children's minds, as a basis for reasoning. They may be drawn out of a child's experience in part. But they should not seldom be directly furnished by the instructor.

15. Many teachers seem to have an antipathy against giving children any information by direct statement, but they show a strong preference for questions as a mode of prying secrets out of children.

16. The questioning habit in teachers runs into serious faults that are easily noticed by an observer, as follows: (a) a multiplicity of questions, where a few well-chosen, significant questions would be better; (b) chasing down a child's mistakes with questions so that he will correct himself (often a great waste of time); (c) questioning children on side issues that arise in discussion (such questions carry one far

afield and accomplish little); (d) questioning a child when he is muddled to see if he cannot extricate himself (usually a vain hope and a great waste of time); (e) vague and unpremeditated questions which leave the children in doubt as to the teacher's meaning.

17. As soon as the important facts bearing on a subtopic have been gained from the child or presented by the teacher or obtained from the book, apt questions, to bring out the significance and grouping of these facts, their wider import, or their application in the further development of the topic, are in place.

18. In presenting problems in history or geography for children to solve by their own thinking, first state in full the introductory facts, the difficulties of the situation. Then raise a question as to the mode of solution.

19. Teachers often enter upon a series of questions with too little preliminary reflection. To state good clear questions is a difficult art. To ask a series of pertinent questions leading to a logical development of a topic is an extremely difficult process of thinking, one acquired only by severe discipline and training.

20. Teachers should use a development method with considerable caution, and not depend upon it at first as the main feature of oral instruction. With enlarged experience and training, skill in asking development questions is gradually acquired.

21. Skillful development instruction is one of the

highest and most difficult arts in the teaching profession. Those who would aspire to such worthy achievement should be willing to put themselves under discipline, first in the serious thought work of organization, and second in the various forms of skill required in lively oral work.

4. *Questioning*

Questioning is the most important instrument used by the teacher in classroom exercises. It has a great variety of uses, some of them very delicate and discriminating. Teachers usually drop into the questioning habit freely and unreservedly without much concern as to its difficulties or pitfalls, and without seeming to realize that good questioning is an uncommonly difficult art. The style of questioning adopted by a teacher betrays at once the weak points or the strong points in his mental character.

We will note first some of the more commonly recognized characteristics of good questioning.

1. Questions should spring from a deliberate and thoughtful attitude of mind, and they should produce in pupils a similar thoughtful and reflective mood. This applies to questions used to test knowledge, power to see relations and to solve problems.

2. Good questions by the teacher spring out of a well-organized body of knowledge. Without per-

ceiving clearly the organizing centers of thought in his subject, the teacher is at a loss how to frame or where to apply his questions. Prudent and thoughtful questions strike in toward the main line of thought and touch the pivotal points in the series of topics. They are centripetal rather than centrifugal. It takes thought and practice to hit the mark with a question.

3. A good question that strikes the center of a topic calls up a whole series or group of things, and before this question is answered, may require a recombination of facts and data. Make one question go as far as possible.

4. These pivotal questions will have to be thought out reflectively beforehand. It is not safe to depend upon the inspiration of the moment.

5. In questioning one must learn to discriminate between the important and the trivial, between those things which contain the gist of the matter and those of small import.

6. Questions must be clear, explicit, and unambiguous. This requires care, simplicity, and definiteness in language.

7. Successive questions should follow a logical line of argument and not scatter far into bypaths.

Faulty questioning assumes a variety of forms :

1. Asking too many questions. In the opinion of some thoughtful people, the usual free and promiscuous

questions of teachers run far in excess of a proper standard. Teachers are said to ask many times as many questions as are needed.

2. It is not an uncommon fault of teachers to help children too much by numerous detailed questions. The pupil, instead of reciting independently and connectedly upon some important topic, waits for the teacher's questions and is propped up and supported at every step by the teacher's suggestive and overhelpful inquiries.

3. Some of these careless questions suggest the answer, or by the tone of voice imply that the child's previous answer is wrong.

4. Questions which set children to guessing are sometimes allowed to run from one to another in the class, without definite outcome. Various opinions are called for, and in the end the matter is left unsettled.

5. Vague, indefinite, and general questions are all too common. They are so bungling and obscure that no rational answer could be given. Such questions are, in fact, enigmas or riddles upon which to waste time.

6. In development instruction, questions are sometimes asked to bring out facts that cannot be found in the child's experience. It is a great waste of time to fish after facts which somehow will not come to the surface.

7. After failing to get an answer to one question, teachers do not like to give up in defeat and so ask another and another question, until perhaps a loophole of escape appears, or the teacher himself is compelled in the end to explain and give the answer.

8. A common fault is that of repeating one's questions, as well as the answers of the children.

9. A frequent error in stating questions is that of giving one question, then changing or modifying it in various ways until the children can understand it. This procedure suggests that the instructor has not reflected upon his questions and boiled them down to what is definite and essential.

10. A serious problem in dealing with questions and answers is that of handling skillfully the replies made by the children. To incorporate the answers and contributions of the children into the forward thought-movement without wasting time on trivial side issues, requires broadmindedness and quick and accurate judgment.

11. In lively and thoughtful instruction many questions spring from the children themselves that are worthy of careful consideration.

12. It is an encouraging sign to see children coming into a class recitation prepared to ask important questions. It proves that they have been set to thinking either in the previous lesson or during the study period.

5. Attention

1. The success of all mental activity depends upon the degree of attentiveness to the thing in hand.
2. The teacher can help children in their work by providing the conditions favorable to strong attention, as follows: (a) a subject of study that naturally commands the interest and attention of children; (b) setting up aims and problems that concentrate thought upon important and difficult topics; (c) physical and mental freshness in the children; (d) the removal of disturbing influences.
3. The energetic will of the teacher may reënforce the vacillating will of the children in securing attention to the lesson.
4. In the act of attention the mind is focalized for an instant upon one thing, and then moves on to the next and the next, etc. A progressive movement of thought is required in order to hold the attention. Otherwise it jumps the track and wanders off.
5. Mental effort in classrooms goes properly by spurts, or strong impulses, with short periods of relaxation. As in boxing, a three minutes' vigorous effort, followed by a minute of rest, etc. Primary children cannot work with full vigor more than five or ten minutes at a time. Then should follow a short rest and transition to something else.
6. German schools lay great stress upon attentive-

ness in the classroom, and they provide long rest periods between the recitation periods.

7. In oral recitations, where no textbooks are used, success depends upon close attention. The habit of inattention, cultivated in the classroom, repeats and fixes itself in the study periods at home and school. The classroom is the place to train children to right habits.

8. Laxity of attention in classrooms is a somewhat marked feature of many of our schools.

9. One of the chief difficulties for young teachers (and often for older ones) is that of securing and holding class attention.

10. Fresh air, gymnastic exercises and recesses or rests properly distributed, are a direct support to attention.

CHAPTER V

THE CRITICISM OF INSTRUCTION

1. How to Judge and Criticize Class Recitations

1. Note first the position and grouping of the class with regard to teacher, blackboard, maps and illustrative materials, and with regard to light from windows. The compact grouping of the pupils so as to be easily surveyed and controlled by the teacher is of importance.
2. Manner, dress, and attitude of the teacher before the class. Is he confident or diffident, energetic or impassive, stiff or flexible, agreeable or offish, well equipped or unprepared, overcritical or overindulgent, neat and tasteful in dress or careless.
3. Discover the plan of the day's lesson and its relation to the series of lessons in the larger topic. Does this lesson fit in closely to the thought-movement of the entire subject? In the review of previous points and in the assignment for the next lesson, do we observe a well-organized plan?
4. Is the teacher a full master (1) of the subject of study in its facts and thought relations; (2) of the

attention and interest of children; (3) of the thought processes by which children appropriate knowledge?

5. Is the teacher skillful in the clear presentation of difficult points and in calling forth adequate reproductions from the class? Is the response of the class to the teacher's questions and leadership strong and self-reliant?

6. Is he an adept in questioning and in managing discussion? Can he direct the children into strong and independent thinking while holding firmly to essential points in the close line of argument? All discussion tends to run wild. Does the teacher hold it to the point without damage to freedom?

7. Is the teacher incisive and definite in bringing the main ideas into prominence so that they are clearly grasped by the pupils and expressed in fitting language? Have the children's ideas been cleared up on important points so that these stand out sharply in their minds?

8. Is too much attention bestowed upon a few pupils, either upon the quicker or the slower ones, in the class? Is the class spirit kept up without losing track of individuals?

9. Does the master dominate the class too much with his own opinion and authority, or does he throw the children more and more upon their own resources in thinking and in expressing their thought?

10. Does the teacher keep a just balance between

accuracy in little things and the emphasis of important ideas or principles? Can these two things be combined in one recitation?

11. Is he versatile in simple, concrete modes of illustrations, whether by anecdote, personal experience and humorous example, or by blackboard sketching, diagram, dramatic action, figures of speech, and simplicity and clearness in language.

12. In its results test the recitation upon the value of the knowledge acquired and organized during the class period, the kind of thinking done, and the spirit developed in the class toward the subject of study.

13. As a consequence of the lesson, will children know better how to study? how to apply their efforts more independently to the succeeding problems of study? Is there inclination to push on further in the study of the subject?

14. Did the lesson have insufficient variety to keep up a lively mental activity, or did it tend toward monotony and consequent dullness and inattention?

15. What was the special aim of this lesson, and to what extent was it realized in the work accomplished?

16. Was the teacher alert to make use of the children's previous life experiences and knowledge gained in school studies? Was there much connection between this lesson and other lessons?

17. Did the instructor take sufficient time and pains in the assignment of the succeeding lesson?

18. Was the teacher properly attentive to correct language expression and full sentence construction?
19. Did the teacher talk too much or too little?
20. Was good use made of the contributions brought by the pupils to the discussion of topics?
21. Were the teacher's questions well digested, clear, and properly centered on the main points?
22. Was there waste of time in discussion, in repetitions, in class management, or in other ways?
23. In observing a lesson, take a few notes of such definite character as to illustrate the points of criticism. Give full credit for the excellences shown in a recitation. Avoid all unkindly and harsh criticism.

2. *Where to Center Attention*

The concentration of attention and effort upon important points and upon difficulties that must be met is the secret of success in much of our study. The failure to strike these important points hard and to drill upon them is accountable for much ill-success.

1. In spelling a list of words it is advisable to put the list on the board and examine them one by one to discover what the special difficulty is in each case, to focus attention upon the point where a mistake is likely to occur, as in the word *separate*; the middle syllable *sep-a-rate* is the danger point. In their

following study the children will fall upon these special points with vigor.

2. In a reading lesson, proper names, as in the poems of "Horatius" or "Hiawatha," need to be examined and clearly pronounced and the specially troublesome names given in concert and singly in the assignment of the lesson.

3. Likewise in geographical studies, hard names deserve special preliminary attention and a correct pronunciation secured before study and drill are required. They will then know upon what to center attention.

4. In the correction of common faults in the use of English, a small number of the more common errors in the use of the verb *to be*, of pronouns, of contractions, of homonyms, and of irregular verbs, should be clearly shown by examples, the proper forms placed conspicuously on the blackboard and kept before the children until habits of correct use are established.

5. In sketching maps of states, or continents or countries, show children, in the introduction to a map-making lesson, how to see the large prominent features of a map, its main bulk and dimensions, its shape as a whole in proper proportions, and neglect the little points, the small crooks and details. Fix the attention upon these essential features as a clear suggestion how to study.

6. In arithmetic teach children to find the pivot of

the problem, and the grouping of facts around this point. In working out a process like long division or the division of fractions, there is one spot in the process where the main difficulty lies. Fix attention upon this, illustrate it and clear it up, before assigning a lesson in problems to apply this process. In the writing of decimals, before giving problems, see to it that the children image the number before writing it. Let them get the habit of determining the number of places to the right of the decimal point, the number of zeros required, and then be prepared to write the number correctly from left to right promptly.

7. In assigning a lesson in spelling from a passage in the reading lesson, teach the children how to pick out the difficult words, especially those used commonly in letter writing or composition. Notice which words are phonetically spelled, which are peculiar and exceptional. Make a list of those deserving particular attention.

8. In an oral lesson in history or science or geography, teach children how to discriminate between minor facts and leading points, how to make an outline of essential subtopics, each of which is an important center of thought. This forms then the basis of reproductions and of later reviews and drills. The making of good outlines is a fine art, requiring a careful judgment of values and an accent upon essentials.

9. In the study of literary selections, lead children to hunt out the main theme, the controlling motive in each important act or section of the story and of the whole poem or story. The entire treatment will hinge upon the wise selection of the chief idea or motive in a masterpiece.

These few illustrations will serve to show how great an economy may be secured and how much more efficiency in studies is possible if children are taught where, that is, upon what points, to concentrate their attention as a basis for thorough mastery and drill.

The less important facts and topics can be passed upon more quickly or dropped to one side.

3. Formal Routine and Humdrum

Humdrum is defined in the dictionary as dull, commonplace, tedious, etc. There are many school exercises which seem to possess a natural tendency to run into formal routine and humdrum. Even the most interesting studies, in the hands of a sleepy teacher, drop down to a drowsy monotony. A few of the more marked examples of humdrum may be stated as follows:

1. In reading lessons, where children read continuously without suggestion or criticism, and without apparent aim. The teacher's one remark is, "Read on, Mary," "Read on, Peter."

2. In primary reading, word drills are apt to become dull and tiresome. Indeed, it is difficult to hold the attention of the little folks upon them. The teacher is put to it to find original devices and variety of work for such emergencies.
3. The learning of dictionary definitions of words, without insight to apply them to the sentences in hand.
4. Memorizing and reciting passages and poems that are not well understood.
5. Drill in the spelling of meaningless words.
6. Grammatical analysis and diagramming of sentences may take on the character of formal routine. In such cases, for example, simple words like *a*, *the*, and *and* are repeated and explained a hundred times. The teacher should drop these familiar, simple things, and turn attention only to those constructions that involve some difficulty of thought.
7. The memorizing and repetition of definitions and rules that are not clearly understood, in grammar and arithmetic. Such rules should be derived directly from abundant illustrations which make them intelligible and then applied to new cases.
8. The exact verbal analysis of problems and processes in arithmetic may become exceedingly formal, tedious, and discouraging.
9. The verbal memorizing of textbook lessons in history and geography without imaging the scenes,

or thinking out the meanings. Such thoughtless memorizing betrays its emptiness by its monotony and lack of expression.

10. Reviews and drills upon fixed series of facts in history and geography without new interpretation. Such chronological tables in history and formal series of names in geography often have no underlying thought connection.

11. The rote singing of songs without emphasis of thought or sentiment, or even without appreciation of the musical quality of the selection.

12. Dictations in constructive work and blue print directions in the shop exercises prove that formal and thoughtless routine is as dangerous and depressing in the manual arts as in grammar and reading.

13. Catechisms in religious instruction easily drop into this formal routine.

14. The history of science teaching and of nature study reveals a similar drift toward formalism, as in the old method of plant analysis, in the memorizing of classifications and orders in animals or insects, and in the description of plants or animals according to a tabulated scheme.

15. In studying literature from textbooks, even the facts, names of books, and other data of an author's life, as of Irving or Bryant, can be brought into a dull routine as humdrum as anything.

16. Even physical exercises and marching may take

on the lockstep and the dull movement. The outdoor games of children, when too carefully supervised and controlled, lose their freedom and spontaneity, becoming dull and uninteresting.

17. These and other illustrations that might be enumerated make it plain that almost any kind of school exercise may easily drop down into routine and humdrum. The question may be fairly asked whether any kind of school work, if kept up to a normal, healthy tone, should ever become humdrum. Humdrum implies sleepiness, and is the vanishing point of thought and spirit.

4. How Time is Wasted

Economy in the use of time is one of the first essentials of good school work. In contrast to this primary need of economy and efficiency, our school exercises show, in several ways, a serious loss of time. What is still more serious, the habits of wasting time formed in the schools are perpetuated in the various callings of later life.

The channels through which time runs to waste in the schools may be noted as follows:

1. In not devising and executing, in each subject of study, a well-defined plan of work. Definite goals must be clearly fixed in mind, and the work pressed forward steadily toward their accomplishment. This

requires systematic planning and skill in execution, also the selection of definite units of study in proper order.

2. By not planning and executing promptly room and class movements. For lack of forethought in giving directions, children become confused in taking their places at the board, in passing and collecting materials, etc.

3. By not providing the necessary physical conditions for vigorous mental effort. Time is wasted in trying to teach children in a hot, poorly ventilated room, or when they are tired, sleepy, or nervously unstrung.

4. In lecturing children too much about good order, behavior, and delinquencies, while forgetting to execute promptly and steadily requirements already made.

5. In scolding and reproving children publicly till they become hardened and willful in opposition.

6. In not securing and holding a strong and general class attention. This may be done by planning the work so as to make it interesting and valuable in content.

7. In trying to teach the principles of a new lesson before recalling and bringing into service earlier knowledge and experience upon which these principles are based.

8. In not watching the whole class, but confining

the attention to one or two reciting, so that the class as a whole loses interest and drifts away. The work must then be done again for the sake of delinquents.

9. In half-learning things; that is, running over a mass of knowledge somewhat hastily, so that the facts and ideas are not clearly fixed, the meanings and relations are vaguely understood, and thorough reviews and drills are omitted.

10. In following a loose method of development work, with much free discussion, and a failure to clear up the main line of thought. Many small matters and side issues are allowed to absorb the time. There is lack of discrimination between important and unimportant. Inferences are drawn upon a too slender basis of facts.

11. In indefinite and poorly framed questions which prompt the children to loose guessing.

12. In the teacher's talking and explaining too much. The burden of effort should be thrown heavily upon the pupils, and teachers should not monopolize the time even with interesting lectures, to say nothing of mere talk.

13. In lifeless and humdrum exercises that deaden the spirit and ambition of the class.

14. In waiting too long for the poorer members of the class, or in trying to follow out some abortive line of questioning.

15. In trying to force an answer from a child when he is manifestly unable or unwilling to give it.
16. In allowing children to criticize each other's work. They waste too much time on trivial errors.
17. In disputing with children.
18. In the hasty, loose, and unpremeditated assignment of lessons. Thus questions, disputes, and unreasonable requirements arise. Such faulty assignments are prolific in bad results.
19. Time is wasted during the study period, (1) because of a lack of a definite program of work, (2) because difficulties are met for which the pupils are not prepared, (3) because of dawdling and inattentive habits cultivated, (4) because children disturb one another, sometimes trying to study together.

5. *The Study Period*

1. During the study period, unless the children are strongly supervised, they drop easily into careless habits and poor work.
2. It is not enough to keep children orderly and busy during the study period. A standard of neat and careful work should be kept up and errors foreseen and avoided.
3. Children left to themselves often dawdle in their work. They make many careless blunders, and get established in bad habits.

4. Great pains should be taken to make careful and definite assignments for the study period. If the teacher can give attention to those working during the study period and hinder mistakes or prevent careless, slipshod work, he will save much time.

5. The old theory that children should be left to their own resources during the study period and should master their lessons independently, receiving little or no help, is good only in part. The careless habits of study and of doing things, formed by children when left to themselves, interfere seriously with efficiency.

6. It is doubtful if children under any circumstances should be allowed the freedom to be careless and heedless in their work.

7. As far as possible, forewarn children and prevent them from making mistakes. Every mistake and careless performance is the beginning of a bad habit or the strengthening of an old fault.

8. Dictation exercises in language lead to many mistakes which should be foreseen and avoided. Call attention beforehand to probable mistakes in use of capitals, abbreviations, spelling, and sentence form.

9. The teacher must be persistent in maintaining good standards during the study period as well as in the recitation.

10. A little time spent in examining and correcting

papers executed during the study period will help to keep up these standards.

11. There is much danger of helping some children too much during the study period, and of neglecting others. Some children lean very heavily upon the teacher for help. Others are too independent.

12. Even with two classes in the room, and with one reciting at a time, much can be done by thoughtful foresight and by inspecting results to keep up good standards of careful work.

CHAPTER VI

GENERAL PROBLEMS AND PRINCIPLES

1. Problems not Easily Solved

THE following statements suggest problems of unusual practical importance which are not easily solved, but require the constant attentive consideration of teachers.

1. Spencer's idea of natural punishments, *i.e.* how to adjust penalties to the misdemeanors of children, so as to give full play to the natural results which follow the deed; illustrated by the old story of the boy who cried "wolf."

2. To encourage initiative in children, that is, leadership in projecting plans, in devising problems, and in inventing ways of meeting difficulties. Robinson Crusoe illustrates initiative. The schoolroom, because of its formal requirements, is slow to prompt to initiative.

3. How to deal with children who are weak in power of attention, who lack steadiness and concentration of thought, whose minds flit about incessantly from topic to topic.

4. Can we plan the work in such a way as to get good English in all studies, or at least a constant attention to correct and appropriate language in every lesson so that children will steadily improve in language power?

5. Are we able to deal with children during the study period so that they will learn how to study, how to use books, how to master lessons and think for themselves? Some recitations are best employed in teaching children how to use their books. Three effective ways of influencing a child's study: (a) by careful and suggestive assignments, (b) by more or less supervision of the study period, (c) by tests, criticisms, and discussions during the recitation.

6. How shall we keep up a strong connection and continuity of thought in studies from grade to grade? This would lay emphasis upon underlying unities and sequences in studies and courses. In history, for example, a deeper study of causes and effects, and more continuous treatment by big topics.

7. Is there a way of making the study of grammar of practical use, with real motives for the children and with direct influence in correcting and improving children's common use of English? *E.g.* the study of irregular verbs, their parts and conjugations, should aid in avoiding common mistakes. A more constant and rigorous application of grammatical principles to all studies should help in this.

8. Are we able to determine the predominant interests and impulses of children, their characteristic feelings and mental attitudes, during their succeeding periods of growth, and can we apply this knowledge to a better selection of materials for a suitable course of study?

9. What are the ways and means for developing a liberal, many-sided, social disposition, first in teachers, second in children? The school is a coöperative group and may cultivate at all times the social spirit and the social virtues.

10. How to discriminate wisely in dealing with children and with subject matter so as to ask suitable and pertinent questions in development instruction.

11. How to organize the knowledge materials of any important complex topic into a closeknit, logical sequence of main points, to give an adequate treatment of each point, and to complete the thought movement so as to bring out a well rounded whole, or unit of instruction.

12. How to deal with children's physical defects and by overcoming them improve their chances for mental progress. Teachers should acquire some skill in detecting physical defects of eyes, ears, throat, skin, etc.

13. The difficulty of getting an adequate supervision of children's games, outdoor sports, exercises, etc.

In the end some sort of special provision should be made for supervising playgrounds.

14. The broad general difficulty of getting a close connection between our fundamental theories and practice.

2. *General Principles to be Respected and Worked into Practice*

1. All studies and all management ought to contribute to the important aim of moral improvement. Honest and serious effort, developing into habit, belong to all school work.

2. The conditions for physical health and vigor must first be provided for by thoughtful consideration.

3. Adjustment, in the broad sense of fitting into life conditions, social, industrial, and physical, is a universal requirement.

4. Respect for and cultivation of individuality has likewise the widest scope and calls for broadmindedness and many-sided appreciation of individual traits.

5. Self-activity and initiative, the development of originality and resourcefulness in pupils, is one of the important and difficult achievements. It is one of those superior qualities that the schoolmaster with his dominating and controlling influence is inclined to overlook, if not actually to discourage.

6. A many-sided interest in knowledge, giving motive to a child's study, is an essential element in all wholesome and hearty instruction. It should be combined with the problem-solving idea which sets up difficulties to be mastered, and calls for strenuous effort. The combination of interest with strenuous effort gives completeness to mental action.

7. The inductive-deductive thought movement is basal for the intellectual processes that give mastery to knowledge. The general thought movement from the individual to the abstract, and back again to the individual or concrete, is of primary importance in elementary instruction.

8. Apperception, *i.e.* the constant development of knowledge on the basis of one's previous experience and acquisitions, is one of the surest tests of right methods in teaching. To connect up a child's new acquisitions with his past experience keeps a teacher very alert.

9. The principle of *habit formation*, the laying down of right habits, and the avoidance of wrong ones, is the means for clinching educational values. To be of much practical value, all knowledge must reach the stage of habit.

10. Mental discipline is habit carried one step farther and reaches over into allied fields of effort, and, perhaps in some measure, into all fields of thought.

11. Continuity in thought processes in studies re-

quires the teacher to look beneath the surface to discover those underlying ideas and connecting links which bind together the different and often widely separated topics of a study, as in arithmetic, history, etc. In order to work out these fundamental connections, the teacher should read in between the lines of the textbook. At this point thoughtfulness and the reflective habit ripen knowledge into its best fruitage.

3. *Course of Study.*

1. Our present elementary course of study has been made more complex by the addition of several new studies, and by enriching some of the older studies. As it now stands it needs simplification and closer organization.

2. Those parts of the old course of study that are no longer serviceable for our modern life can be dropped out. Some of the new studies also require sifting, reserving only the really essential parts.

3. In recent years there has been a fluctuation in values among studies and a shifting of standards of value so that courses of study have been very unsettled. Great changes have been made, and others are in progress.

4. Teachers are called upon to exercise their best wisdom and to take broad views of the whole field of studies to determine (a) what studies are relatively

more important, such as reading and arithmetic, what of secondary moment, as writing and spelling; (b) what are the leading or central topics in each of these important studies; (c) how to organize into a close series the large topics in each study; (d) how to correlate the studies themselves with one another and make them stronger by mutual helpfulness; (e) a method for the thorough treatment and mastery of these large topics.

5. The lack of continuity of thought in passing from grade to grade is emphasized by the fact that each teacher is responsible for but a single grade, and is disposed to look not far beyond it. The steady growth of knowledge and the close dependence of each year's work upon preceding years require teachers to broaden their view.

6. The reconstruction of the course of study along the lines required by modern life calls for a thoughtful and reflective survey of the whole field of knowledge with such a selection and organization of its materials as will contribute to the fundamental aim of education.

7. This chief aim itself is only gradually coming clearly into view. It involves at least the best cultivation and training of the individual in his resources and his adjustment to the social and industrial world of his surroundings.

8. The surprising richness of the various special branches of knowledge, as history, science, literature,

etc., raises the important question of selection. We need a simple course of study and one, at the same time, very rich in content.

9. While it is necessary to project a course of study, definitely determined as to its main topics and their serial arrangement, much freedom should be left to the teacher in the details of treatment and method.

10. A full course of study contains, of necessity, a great variety of studies, widely different from each other (as arithmetic and music, or science and literature); in fact, almost contradictory in character, at times. All these studies are necessary, and they show the need for breadth and liberality in teachers. No teacher in the common school should narrow himself down to the routine of one or two branches of study. Every teacher should acquaint himself fully with the course of study as a whole.

4. Textbooks and Apparatus

1. The textbooks, reference books, libraries, and apparatus that go with a course of study are entirely essential to its efficiency.

2. A textbook is usually some experienced teacher's plan for handling a subject, and, to be used at all, needs first to be thoroughly understood as to its underlying purpose and method. It requires to be studied as a whole, and in detail.

3. Textbooks are necessary condensations of great, rich subjects. They are outlines and guidebooks. The rich stuff that lies back of them in other larger books, and in life, should somehow be brought into relation to the text.

4. Teachers should be steadily enriching their own minds with the resources of knowledge found in the big, fruitful books and more elaborate treatises found in libraries, or with books of travel, of biography, of practical and applied science.

5. Teachers should read interesting books of strong writers who stir thought and emotion, as Kingsley, Scott, Irving, Macaulay, Eliot, Bryant, Stevenson, Kipling, Browning, Shakespeare, Homer, Huxley, John Fiske, Carlyle, Ruskin, etc.

6. Teachers should keep in touch with modern life through newspapers, magazines, and journals of geography, science, and economics. All studies should culminate in a better understanding and appreciation for what is going on in the world to-day.

7. A constant training in the use of dictionaries, encyclopedias, maps, and reference books is a very important part of every child's education to accuracy and to self-reliant modes of serving himself in acquiring knowledge.

CHAPTER VII

SUGGESTIONS BEARING ON SCHOOL STUDIES

1. *Language Regulatives*

GENERAL

1. Language exercises, as far as possible, should have a basis in stimulating thought material. Some sort of vital experience should give a real interest, if not a compelling motive, for language expression. A rabbit hunt or a vacation frolic, or Kit Carson pursued by the bears, or a poem may furnish this.

Lively prose selections, such as short stories of adventure, travel, discovery, personal history, dialogue, and humorous passages can set the mind in action and keep up the thought movement.

2. Language efficiency illustrates the demand for continuity of effort throughout the grades. The standards and requirements of the earlier grades should be kept in mind. There can be no neglect of previous lessons, no dropping down of the standard to carelessness or oversight in language expression.

3. The standard of excellence in language should be high enough to produce a conscious effort at correct

and forcible expression, but not so strenuous as to interfere seriously with a child's thinking. Constant alertness in the kindly correction of mistakes is more effective than a perfect standard of excellence vigorously enforced.

4. Let the teacher be careful in speech, clear and accurate in pronunciation, choice in the use of words, and well-balanced in sentence construction. Such an example operates visibly in shaping children's habits of speech.

5. Improvements in speech are matters of slow, gradual growth in habit formation.

6. The framework of sentence construction, in its more familiar forms, should grow into an unconscious habit of thought. This can be brought about in part by the children becoming thoroughly acquainted with a few standard forms which serve as patterns. The memorizing from time to time of standard prose sentences will gradually induce a habit of similar sentence construction. Such passages should deserve memorizing for their thought value.

7. The memorizing of dialogue selections and occasional dramatization help also to fix in mind the more common constructional forms used in conversation.

8. The memorizing of definitions and rules in various studies, when once clearly understood, have this additional value as types of good sentence construction.

PRIMARY GRADES

1. Oral story-telling by teachers and frequent reproduction by children is the school's best means of early fixing right habits of speech.
2. The early reading, nature study, and story-telling with their simple conversational forms afford numberless opportunities for assimilating into children's speech a variety of correct words, idioms, and simple sentence constructions.
3. In all language, the more closely we combine distinct hearing, clear-cut pronunciation, sharp seeing, and written reproduction of forms (on board or paper), the firmer will be the children's grasp of the language elements. The four senses coöperate when acting almost simultaneously.
4. By cultivating early a free and unconstrained activity with crayon, pencil, and pen, the habit of writing, as a mode of expression, becomes almost as easy and natural as oral speech and can be freely employed in all the later grades. Imitating the teacher's large easy arm movements at the board, the children may write words and sentences in full, round form. The early seat writing should be big and free. Board and seat work should be under the close inspection of the teacher. Small cramped finger motions are the bane of the children's early writing.
5. In primary exercises the correct uses of pronouns,

of simple verbs, adjectives, and adverbs may be inculcated by kindly suggestion and practice.

6. For seat work the copying of short verses and memorized passages should be continued from first into second and third grade.

7. Short dictation exercises and copying of memorized passages afford excellent drill.

INTERMEDIATE GRADES

1. The oral speech of children in reproducing or reciting lessons should be an object of close observation by teachers: first of all, to find out what power the children have in sentence construction; and, second, to note common errors that need correction.

2. This closer, keener study of a child's speech will detect his faults in thinking as well as his grammatical errors. This knowledge then becomes the basis for the campaign for better English that is to follow.

3. In correcting and improving a child's oral speech in the recitation, the teacher is dealing with one of the most fundamental and difficult problems of instruction. The question is, how shall we criticize these language faults and lead him into correct usage without interfering with his thought processes?

In this connection three modes are suggested:

a. Many verbal errors can be quietly and incidentally corrected by kindly suggestion without serious interruption.

b. Other corrections can be made at the close of a child's talk, and more emphasis given to the errors and their revision.

c. Some of these more common mistakes may be definitely taken up in the language lesson, and drills upon correct usage be given.

4. The definite and systematic correction and improvement of oral speech is a pressing duty in every recitation of every study. Without it slovenliness in thought as well as in words is sure to follow. Clearness and distinctness in utterance are also involved.

5. In each grade the teacher is responsible for maintaining the standards set up in the earlier grades, first in respect of the larger language aims which stretch through the whole school course, second with respect to the special forms of error which have been drilled upon in the preceding grades. This is what we mean by the continuity of effort, uninterrupted by change of teachers from year to year.

6. The framework of speech, that is, the important forms of sentence construction, are forcibly inculcated in such thought studies as history, literature, science, geography, etc. If correct language has been neglected in these studies, the language teacher has a garden to cultivate already overgrown with weeds.

7. First of all, therefore, we must throw the emphasis back upon oral speech and the oral recitation as the root out of which language springs. In order

to avoid dealing with bad habits, we must get correct habits established in oral speech as early as possible.

8. In written exercises children may often give an oral statement of topics with care as to correct language, before writing.

9. Distribute according to some definite plan the paper and pencils, or pens and ink. Often much time is wasted with these details.

10. Before writing give a few plain directions as to special points. Remind the children of two or more common errors in recent lessons. Difficult names or other new words may require a blackboard drill.

11. During their writing let the teacher pass quietly among them, noting errors and giving advice. Carelessness in their written work will only strengthen bad habits.

12. In written board work similar watchfulness is necessary. Let children use erasers sparingly, or only by permission. Let them respond quickly to class orders and movements.

13. In examining board work children may be encouraged to acuteness in detecting their own and others' errors; but trivial criticism should be checked.

14. The language books are of much service for seat work.

15. Use the blackboard for showing children how to break up the line of thought into simple sentences, paragraphs, etc.

16. A few at least of the papers handed in (if not all) should be carefully corrected and then discussed in the class. Children are disposed to slight the corrections and to repeat their mistakes. Steady pressure is necessary in order to secure correct usage.

17. The outline of a previous lesson in history, geography, or nature study may frequently serve as a basis for composition. Such outlines should be clear and logical as to main points.

18. Have a special aim for children in each lesson, as a rule in punctuation, or capitalization, or a correct form in letter writing.

19. Success depends upon the mastery and steady application of a very few requirements, and of persistently reviewing and keeping in mind these few essential things.

20. In correcting common faults in grammar, keep a few standard forms on the blackboard in a conspicuous place for constant reference until correct habit is secured.

GRAMMAR GRADES

1. The chief aim of language work in grammar grades is the power and habit of constructing good sentences and also of combining them into continuous discourse. To gain this result, children should become thoroughly familiar with standard sentence constructions in a variety of forms. This may be done:

- a. By memorizing simple prose passages from good sources. The same passages may be later used for grammatical analysis in its various phases.
- b. By keeping up a high standard of connected oral speech in reciting lessons, especially in grammar, history, geography, and science.
- c. By strong and vigorous thought analysis in reading lessons, and by grouping of words into phrases and clauses according to sense.
- d. By drill and criticism of sentence construction in composition. Use the blackboard to exhibit the superior forms of sentence structure.
- e. By careful grammatical analysis of sentence construction, together with study of thought relations in the sentence.
- f. By classroom discussion of sentences and their construction, of idioms and peculiar forms and expressions in English.
- g. By unconscious assimilation in reading.
- h. By constant thoughtfulness about correct language in all lessons.
- 2. The series of drills to avoid common errors of speech is reviewed and continued through the grammar grades. Grammar often explains the reason for correct usage, and makes it rational. This series of common errors is outlined in the language books.
- 3. Constant alertness in observing and criticizing mistakes, combined with encouragement to thought-

fulness and effort in using good English, requires unusual skill and persistence in teaching.

4. From the fifth grade on, the use of the dictionary should become familiar, and grow into habit. Also of cyclopedias and reference books. Independence and freedom in the use of such books are important.

5. The common rules for spelling, punctuation, capitalization and paragraphing may be worked out (inductively) and applied. The results in the form of rules and illustrations should be written out in neat, permanent book form by the children.

6. Composition, in its nature, calls for freedom, originality, and invention. The teacher will use his ingenuity in devising topics and calling out lively experiences that open a way for the spontaneous expressiveness of children. This may be accomplished by discovering and using:

a. Topics children are interested in individually, as in making a canoe, or constructing a tree house, or a trip among the northern lakes, or an experiment in cooking.

b. Interesting episodes in history, travel, biography, adventure.

c. Composition of poems for class celebrations, etc.

d. Humorous incidents and funny stories.

e. Reviews of books read, or plays heard, or pictures seen, etc.

f. Setting up problematic situations in stories or historical narratives to be worked out by the ingenuity of pupils.

7. Grammar pupils, especially boys, are disposed to throw off careless and unsightly papers. They should be quietly and firmly held to neat and well-written paper work. The preservation and comparison of a child's papers for the year is often helpful.

Grammar

1. Grammar should be first of all a study of thought relations within the compass of the sentence. It implies a vigorous thought analysis, a training in accurate thinking in standard English constructions.

Composition carries this thinking process still further into the thought connections within the paragraph and within the larger units of study such as the essay, story, or poem.

2. The clearer, the more concrete and stimulating the thought materials for grammar exercises, the less abstract and obscure they are, the better.

3. Grammar grade teachers may find opportunity to apply constantly in other studies the principles of thought interpretation and construction which are being studied concurrently in the grammar. Grammar studies should spring out of the superior thought matter of other studies and again find frequent application in them.

4. Grammar, in seventh and eighth grades, by gathering up the fruitage of earlier language studies, is the chief means for reviewing, rationalizing, and organizing the formal and conventional usages of previous years.

5. The inductive method is well suited to showing up the principles of sentence construction and to the treatment of the parts of speech. In every case an illuminating series of clear and simple examples can be worked out and compared and the principle or rule easily inferred. Application in a variety of forms may follow.

6. In grammar grades, the numerous classifications, exceptions, and finer grammatical distinctions merely darken counsel with words.

THINGS TO BE EMPHASIZED IN GRAMMAR

1. Ability to give promptly subject, predicate, and modifiers in sentences of usual difficulty.
2. Ability to tell the part of speech of any word in ordinary sentences.
3. Correct use of pronouns, adjectives, and adverbs.
4. Correct use of common irregular verbs.
5. Correct use of relational words.

IN COMPOSITION

1. Ability to reproduce a plain story in good English correct in form.

2. The writing of a good letter correct in form and content.
3. The ability to produce a well-arranged composition on some suitable topic assigned. This implies some degree of readiness in original composition.
4. Practical ability to apply the rules of spelling, punctuation, and capitalization.

2. Geography

1. Geography illustrates the plan of large topics, having in each case a unity based upon an idea which is to be illustrated, expanded, and applied. Such a topic involves the elaboration of a type study as an organized body of thought.
2. The process of working out such a type study through its complete development involves most of the important principles of good class instruction. It runs through a series of lessons revealing the various phases of class work such as presentation, questioning, discussion, reproduction, reviews, drills, assignments, problems, outlines, written tests, applications.
3. The teacher's complete mastery of the entire topic on the knowledge side involves both principles and facts, and the organization of these into a rational order. It requires a fullness and richness of knowledge

material far beyond what is understood by the usual academic mastery of a subject.

4. Well-chosen object lessons and illustrations and the ability to use them with skill and aptness stand among the first of the teacher's requirements. A good teacher's thought and conversation become tinged with the objective, realistic mode of interpretation. His language is marked with figures of speech, images, and objective examples from common and daily experience.

5. The power to image situations and complex processes in the natural and industrial world is put to frequent service. The teacher must image clearly, for example, the entire series of processes by which iron ore is changed into finished steel products. Geography everywhere calls into play this powerful faculty of imaging. The children must learn it from the teacher.

6. The ready and versatile use of the blackboard for sketches, diagrams, and crude picturing in a multitude of ways is a special source of power in the teacher. Without this the geography teacher is shorn of half his strength. Teachers are slow to realize how valuable this is.

7. One of the chief instruments in the teacher's equipment is oral description. This demands a very plain and lucid style of speech, choice and fitting words, homely figures, every idea definite and clear,

and occasional touches of humor. Clearness and simplicity of speech are indispensable.

8. The central idea or line of thought is the pivot upon which the whole treatment hinges. It is the center line of operations, the basis for constructing and organizing knowledge.

9. In working out the whole topic a definite outline of essential points should be placed on the board step by step, in the progress of the series of lessons. This outline is the standing proof of systematic and careful progress and is a good basis for comparisons and reviews.

10. The outline of many of these topics follows a close sequence based upon cause and effect. It is indeed a series of real problems, to be worked out as such, and contains all the advantages of requiring independent thought in solving problems. They are also the genuine problems upon which men have been at work in the leading occupations. These problems are peculiarly adapted to oral instruction.

11. The free discussion and development of such topics, with presentation, questions and answers, is difficult to manage. At first the teacher should depend mainly upon vivid oral narrative and description, with occasional questions. Too much free discussion is apt to run to waste in loose, incoherent talk. Let the teacher learn to hold to the main line of argument and avoid digressions. The art of skillful

questioning and development of topics is slowly mastered.

12. In good oral lessons half the burden of work must be carried by the children. In several ways the children are to be stimulated and held to effort, (a) by reproducing the substance of what has been presented and discussed; (b) by sketches and drawings showing their power of expression in graphic forms; (c) by thoughtful tracing of causes into effects, and by solving problems; (d) by being able to give full connected statements of important topics in completing and rounding out the whole subject.

13. The fundamental ideas of geography run through all the grades from third to eighth. Teachers should maintain this close connection of later with earlier topics, and bring about a continuous organization from grade to grade.

14. The most effective reviews are those secured through the comparison of later topics with similar topics treated earlier. For example, every important topic of Europe is open to a fruitful comparison with similar topics earlier treated in America, as the Danube with American rivers.

15. The second important stage in the handling of any large topic, the expansion of the idea through comparisons and applications, leads to the formation of important series of geographical facts. A specific drill upon this series, with later reviews, becomes

necessary in order to master and fix these facts in memory. Use the map with these drills.

16. In connection with every important geographical topic, frequent short oral drills, often in concert, should be carried out for the purpose of fixing the more significant facts, together with the related facts in other topics which are drawn into view. In this way we cover a wider range of facts and fill up the open spaces that may be left between our large topics. For such drills maps are indispensable.

17. Around each important topic or type study in geography a teacher of that topic should gather a suitable collection of maps, pictures, products (in some cases), pamphlets, and references. The subject thus grows constantly richer, and becomes more and more a center for the organization of geographic material. Each time, also, a stronger method of treatment develops.

18. Local home geography should be strongly featured in the first year (fourth grade), with excursions to shops and fields. It is full of the local and concrete. But in all grades the return to experience and observation and travel in one's home surroundings should be emphasized. A local museum of geographical and historical material is of great value for classroom uses.

19. Board maps, sand models, reliefs, wall maps, pictures, geographical readers and magazines, books

of travel, and product collections should be at the constant service of teachers.

20. The textbooks are used to good advantage for fixing the main facts. The interpretation of maps, the use of statistical tables in the geographies, and the proper use of books of travel and reference as a reënforcement to lessons should be carefully taught. The habit of using such material should grow steadily during the school years.

21. Geography is closely correlated with other important studies like history, science, and arithmetic. By constantly observing these correlations we get a much stronger organization of the varied materials of knowledge.

3. *Reading*

PRIMARY READING

1. Learning to talk well precedes learning to read.
2. Story-telling and learning to reproduce stories, more or less in imitation of the teacher, is the school's earliest and best means of cultivating vigor of thought and power of language.
3. In story-telling the teacher cultivates a vivid imagination combined with simplicity and clearness in the choice of words, and with accurate and pleasing tones.
4. The interest of children in good stories strengthens the attention and exposes their minds to the full

force of language in the direct expression of thought. No other means can be devised so effectual in molding a child's thought and speech.

5. The process of learning to read in the first two or three years of school is largely the mastery of a formal art. It consists in acquiring a new set of symbols for receiving and expressing thought.

6. A very effective method of mastering the formal difficulties is that through the phonetic interpretation of new words. This presupposes the memorizing of the forms of the letters with their associated sounds or values, and practice in their combination till quickness in interpreting new words is gained.

7. The self-activity of the children in interpreting new words is a marked feature of this phonetic drill at every step. Children should be encouraged and required to help themselves in getting new words and sentences in reading: (a) by using the new powers of letters as fast as they are learned for interpreting new words. This is done by analyzing a new word into its sounds and then combining them to get its pronunciation. Distinct drill on these elements and in combining them is necessary. (b) In grasping new words, the four senses are employed in close conjunction: (1) seeing the form, (2) hearing the word pronounced, (3) the pronouncing of it by the children, and (4) writing it on the board (by the children). A new word is often first pronounced by the teacher, then

analyzed and pronounced by the children, then written by them on the board, and finally seen. This fourfold grip on new words is effective.

8. As far as possible, the first words analyzed should be simple and phonetic in spelling, as *top*, *mat*, *fan*. A few of the less phonetic words may require to be learned outright, as *once*, *who*, *tea*, *right*, etc.

9. Lively and interesting stories are introduced very early into reading exercises. Children should read under the influence of quickening thought. The previous oral treatment of stories will contribute much to this thought impulse, and will create the desire for learning to read.

10. Lively questions by the teacher touching the forward movement and outcome of the story will give impetus to effort. This vigorous guidance of children's thought strengthens interest and attention.

11. Let children pass judgment on the truth and worth of what they read. They should thoroughly enjoy the early stories, even in the first grade.

12. The imagination of children should be prompted to build clear mental pictures of places, persons, and actions. Pictures and blackboard sketches or dramatic action are also suggestive, as expressed both by the teacher and by the children.

13. The close attention of all the members of the class so that each reads the whole lesson should be a

constant and conscious aim in the teacher's mind. A lively interest, well kept up, is the best means of securing such attention.

14. Children should be early trained to comprehend at a glance several words grouped into a phrase or clause. This is developed (a) by quick writing of such phrases on the board; (b) by exposing phrases or sentences for instant recognition and again covering them; (c) by presenting momentarily phrases or short sentences on cardboard; (d) by observing pauses and grouping words in reading. This habit of grouping words to express the larger thought relations in sentences should begin in the primary and continue through the grades.

15. The phonic drills, above described, lay emphasis upon clear pronunciation and distinct articulation both in pupils and teachers. The importance of establishing this early habit is such as to carry weight into all the later studies. Teachers should master the phonic elements and apply them with care and precision.

16. Natural and appropriate expression in reading is secured, (a) by the teacher using easy and natural tones in speaking; (b) by the use of interesting stories suited to the children; (c) by questions touching the strong points in the story; (d) by acting out or dramatizing the scenes; (e) by occasional examples of lively reading by the teacher.

17. Let the teacher keep an alert eye for all that is going on, and not be too attentive to the book.
18. Use the blackboard freely in working with new or difficult words.

INTERMEDIATE AND GRAMMAR GRADES

1. When the children have once learned how to read in the first three grades, the reading work of the following years (fourth to eighth inclusive) should be a study of literature, an enjoyment of the choice stories and poems suited to their years, a growing and many-sided appreciation of the work of superior writers.
2. To teach well a choice piece of literature, like "The King of the Golden River," or "Tubal Cain," a full preliminary study of the selection is requisite, a study that goes into it from all sides, a study that reaches out from its central thought in all directions, a study that deals with the author, and whatever geographical or historical suggestions or literary associations are appropriate.
3. The leading motive of such a piece becomes the center around which its thought is organized. All questions, discussions, and illustrations find their meaning in relation to this central thought. To give a vivid interpretation to this idea, to throw it into a strong light, is the purpose of whatever illustrations are presented.

4. The warmth, animation, and freedom of the teacher's mind in dealing with a story attract and draw the children to a similar enjoyment and appreciation.

5. At first children know not how to approach a fine piece of literature. Its beauties and its suggestive imagery have little or no meaning to them. The teacher is a live interpreter, a discoverer of secret values. The children are to learn how to study, and better still how to perceive and enjoy a new world.

6. In finding our way into a new piece of literature, the assignment of lessons becomes a fine art. There are difficulties of thought and difficulties of language. But difficulties are what children enjoy and appreciate if we are experts as guides. Difficult words or names cause children to stumble. Hard passages need to be pried open a little.

7. In its scope the assignment should be unmistakably clear and definite, and posted in a conspicuous place on the blackboard as a guide to seat study.

8. In the recitation, steady attention of all, which is so much desired, depends on what is offered. A rich and interesting lesson, happily circumstanced, will rivet attention. All this depends on the teacher's versatility and resources in handling the subject.

9. The teacher's close attention to the book while children are reading, prevents her from observing what is taking place in the class. One can judge the reading

of children much better without the book than with it. The teacher's close attention to the book is a very persistent error, and is a kind of book slavery.

10. There is much mere formal reading in classes, that counts for little or nothing in the way of progress. There should always be a vigorous spirit and effort in pursuit of definite aims. Why should children ever be allowed to read in a humdrum way, careless or indifferent?

11. How to question, and what to do with children's answers in reading, suggest serious problems for teachers. One can waste much time in trivial and empty questions. A few questions are vital and should be followed up.

12. Children should be led to interpret passages for themselves. But there is often room for wide variety of interpretation. Teachers are disposed to insist upon their own interpretation of passages, even when the child's idea is a good one and worthy of acceptance. Give children more freedom for their own interpretation, subject to responsible discussion. Let them keep their bearings and interpret parts in relation to the whole.

13. A quick imagination and a sense of humor are indispensable for picturing scenes and for interpreting images and figures. Physical modes of expression and impersonations of character are means of stimulating the imaging power of children.

14. The use of dialogue and dramatic action and representation are among the best means of breaking up the formality in reading, of creating interest and of producing freedom and self-forgetfulness. The large amount of time required for such drills and rehearsals is amply paid for in clearness and force of expression, in the realism and awakening of thought, and in increased language power. Children sometimes work up their own dramatizations.

15. Without too much loss of time children in these grades should learn to help themselves in meeting difficulties: (1) by mastering verbal problems; (2) by thinking out the meaning of obscure or involved passages; (3) by seizing upon the broader thought relations of an entire selection. Teachers should be full of devices for getting more serious and sustained thinking. Set up definite problems and touch up the pride and feeling of children to work out such riddles for themselves.

16. Encourage children in their lesson study to think out important questions and problems for class discussion, and to come prepared to ask questions on parts that are of doubtful meaning.

17. This tendency to more independent and mature thinking may be cultivated by comparing similar ideas and figures of speech or sentiments in a variety of poems and stories from different authors.

18. Throw responsibility upon the children for

giving to the listening class the content of a printed page. Let each child bring in a passage or story to read for the instruction or entertainment of the class.

19. Let each child have some well-selected story or poem which he works upon at home till he can read it well before the class for their entertainment and instruction. Decline hearing it till it is well prepared.

20. The teacher, after careful preparation and drill, should occasionally read a passage in the best way he is able, for the purpose of suggesting the higher ideals and spirit of good reading. High standards are thus set up.

21. Study the thought relations in the sentence, by grouping words into larger thought wholes, with suitable pauses, so as to throw them into proper relation to the sentence as a whole. Here grammar, analysis, and reading come together.

22. Let the teacher drill himself and the children in clear-cut enunciation of short vowels, final consonants, and correct vowel sounds. Cultivate also a quick ear for accurate enunciation in the pupils, and for pleasing tones. Frequent drills, singly and in concert, are necessary.

23. Use kindly ingenuity, by indirect methods, to overcome nasality, stuttering, nervously rapid reading, monotone, singsong, and slovenly utterance.

24. By physical exercises, work for deep breathing, good physical position, and a self-reliant spirit.

25. Give variety to each lesson. Avoid monotony and humdrum.
26. Each lesson should emphasize a particular aim determined by the nature of the selection, and by the previous habits and faults of the children.
27. A reading teacher from time to time should work out a detailed and elaborate treatment of some important story or poem suitable to the grade. This involves a rich and fruitful thought study, a collection of pictures, and perhaps maps, and other illustrative data. Also biographical, geographical, and historical material related to the selection; in short, a model of organization and pedagogical treatment.

4. *Arithmetic*

PRIMARY GRADES

1. Primary number work begins to fix and organize the number facts. Incidental to the distribution and collection of materials, as pencils, paper, books, etc., and in connection with games and constructions, the number facts are brought to the front.
2. The first problem is how to concrete arithmetical facts and processes, and second to determine the systematic order in the treatment of topics.
3. There should be abundant and varied use of measurement, employing a variety of concrete objects and standard units as a basis for measuring.

The children themselves should handle the objects and make the measurements.

4. The objects are sometimes used too long. As soon as children can image the relations without them, the objects should be discarded.

5. Number work in the first and second grade should not be too narrowly limited (as it is in the Grube method, giving the number facts and relations in the first grade from one to ten), but children should have a free range among number ideas within the limit of their experience. The numbers 12 (or dozen), 25 (or quarter), and thirty (days in the month) are familiar to the children.

6. Number exercises in grades should attach themselves to interesting objects or experiences, which give a starting point, a thing to be measured, such as a gallon pail or a peck measure, or the seven days of the week, or the clock face, a thing to be analyzed and interpreted numerically.

7. The formation of a series by analyzing a larger unit, either by counting or by additions, gives a mental movement which helps to hold the attention. In dealing with the seven days of the week we form the series $6+1=7$, $5+2=7$, $4+3=7$, $2+5=7$, $1+6=7$. Drills on this series in irregular order come later.

8. The multiplication table should be taken up in the natural and easy order as follows: 10's, 5's, 2's, 4's, 8's, 3's, 6's, 9's, 7's. A comparison of similar

tables, as the twos with the fours, and both with the eights, will set the children to thinking and aid the memory.

9. Oral work should greatly predominate in primary grades.

10. In written work on the blackboard and at their seats, children may become quite familiar with symbols of number and operation.

11. In making up oral problems the teacher should keep within the children's experience of local objects and interests. The children themselves may be asked to make up problems.

INTERMEDIATE GRADES

1. In these grades we continue to learn arithmetical facts and their relations, and to master the chief processes. This mastery of processes has two steps: (1) their derivation out of illustrative examples; (2) repeated and varied application.

2. The inductive-deductive thought movement is well demonstrated in working out these processes with children.

3. The introduction to a process is best made by seeing the necessity for it by meeting with some difficulty or problem to be solved, *e.g.* How can we add $3\frac{3}{5}$ and $2\frac{3}{4}$ inches? We need a means or process for uniting such fractions.

4. Illustrate a process first by some simple problem

(often an oral one is better). It can best be based upon some familiar objects or blackboard sketch with dimensions that can be measured. Other simple oral problems may follow.

5. Open up at once a close connection between this new process and a similar process previously studied. In working out long division, the steps previously used in short division will be found illuminating. It is by basing the new lesson upon things which the children already know, or if they have forgotten must first recall and make use of, that children can do any real thinking, can get the habit of understanding new things for themselves.

6. A simple written problem, worked out at the board by the teacher, before the children, with occasional questions, may still further aid in bringing out the new process. Other written problems may follow this.

7. Look back now over these several problems both oral and written, and discover any points of resemblance. Children should have a chance, by thoughtful comparison, to discover the common points that go to make the process. If children merely accept the teacher's explanations and conclusions, they will work mechanically.

8. To keep the class attention in the effort to fix a process, so that the wandering thought of even careless children will be held long enough to catch the chief points, requires a quick and alert teacher.

9. Be not in haste to formulate a rule. Rules of operation were formerly given too soon. Oftentimes now they are not given at all. But some sort of simple statement resulting from comparisons and inductions seems desirable. In trying to make sure of processes, do not belabor and tease children with long verbal and written analyses of these processes. These are difficult and exasperating and time-devouring.

10. Oral problems (mental arithmetic), because of their simplicity and clearness, have a double use: (1) as a means of introducing a new process, (2) as a means of rapid and varied drill and application after the process has become clear.

11. When the whole process has been made plain by simple oral and written problems, its application to a variety of more difficult problems is made till quickness and accuracy are developed both in interpreting problems and in figure processes.

12. The wider application of number processes to practical affairs and to other studies like geography, applied science and history, and to trades and industries, has two distinct merits. First, it gives greater facility in thinking and using the processes; second, it gives a broad interpretation of the world and a sharper insight into many complex situations. In short, mathematical principles underlie the whole structure of the physical world and of society.

13. The working out of a group of connected problems relating to some large unit of study, like the grain production of the United States or the Panama Canal, or the cost and losses of the Civil War, gives a much-needed illumination of such topics. On the numerical side they are not specially difficult.

14. Over-technical and over-difficult problems and artificial arithmetical puzzles can be omitted from grade work. They belong to later years or to those persons having special leisure.

15. Careful and complete verbal forms of analysis have dropped somewhat into disuse. In any case they should be preceded by the working out of many simple, oral and written problems, till the process is first clear. The main thing is to see that a child is thinking clearly, and this can be determined by questions and brief answers.

16. Correct mathematical statements are required. Careless and faulty and absurd language and formulas are not uncommon; *e.g.* 6 ft. \times 6 ft. = 36 sq. ft. Careless, slipshod statements are altogether too common.

17. In working a class together at the board, have children take their places and obey orders promptly. Do not allow them to write till they know or have imaged clearly the thing to be written. Awaken a strong effort for independence, for accuracy, and for quickness. Require board work to be clear, neat, and legible. In explaining examples at the board,

see that the whole class is in position to follow the work attentively.

18. The continuity of thought processes in arithmetic deserves very special emphasis. The vital connection between the earlier, fundamental, and the later derivative parts of arithmetic suggests that both teachers and pupils must be kept wide awake in every lesson to much that precedes. Young teachers make the mistake of teaching each subject (as factoring or percentage) as an independent, self-existent object of study. Merely to go through a textbook without picking up the loose strings and tying things together is to fail in the most essential part. Failing to grasp the few simple underlying facts and principles, the whole subject lacks organic unity in the teacher's mind as well as in the pupil's. In the textbook these vital relations are not seen, are not in evidence. The teacher must read them into the book between the lines and between the subjects. Dr. John W. Cook says, "If pupils are to become expert in arithmetical operations, they must learn to factor numbers with celerity. Especially is this the case in Least Common Multiple, Greatest Common Divisor, Fractions, Percentage and its Applications, and Proportion."

19. In assigning a lesson upon a new topic, a good share of the recitation period may well be spent in thus bringing up the reserves of knowledge as a preparation for attacking the new subject.

20. There is a great danger, with less experienced or less thoughtful teachers, of moving too rapidly through the book. Children may do all the problems in a book and still have a very poor knowledge and mastery of the subject.

21. A good textbook is necessary for both pupils and teachers. One of the serious faults of teachers is their failure to give a careful study to the whole plan of the author so as to discover his point of view and method of treatment.

22. There are certain necessary defects or limitations in textbooks. They cannot furnish a sufficient number of oral problems, nor of practical applications. They cannot supply any complete illustration of processes, including measuring, diagramming, paper folding, etc. Finally, they fail to show clearly that fundamental connection of principles running through all the processes.

23. The textbook, therefore, is not to be blindly followed by the teacher, but certain parts more emphasized and supplemented, others reduced or modified — and the whole strengthened in the connection of its parts.

GRAMMAR GRADES

1. The sources of weakness in grammar school arithmetic are (1) carelessness and inaccuracy in fundamental operations, and (2) lack of self-reliant power to grapple with difficult problems.

2. Inaccuracy and carelessness can be corrected and the mind toned up by vigorous and varied oral work. Sharp attention, accuracy, and speed can be gained.

"Mental arithmetic is the life and soul of rational method. It is firmly held that, compared with written arithmetic alone, mental arithmetic, if systematically taught, will produce at least twice the knowledge and twice the power in a given time." (McClellan and Ames.) Mr. Cook observes that a large share of the problems in fractions and in other subjects usually worked out with pencil and paper can be worked out orally. In fact, they are much quicker and better worked orally, *e.g.* What are the prime factors of 450? $450 = 9 \times 50 =$ two threes as factors, two fives, and two.

3. The most discouraging thing in grammar grades is the flabby helplessness of many full-grown children in attacking difficult problems. The readiness to grapple with difficulties, the eagerness to wage war with a new problem, without help from the teacher, betokens a strong, energetic spirit and is to be gotten at all hazards.

4. One must appeal at first to the stronger and more stubborn spirits, and through them stir up a vigorous class spirit. Many naturally capable children fall into the habit of being fed on an easy diet. Children must become conscious of their powers.

5. One of the most delicate and diplomatic problems of the teacher in instruction is how to wisely help children. The best help the teacher can give them is to convince them that they need no help.

6. Before any operations are performed, it is necessary to think clearly the conditions of the problem and to ask one's self the main question that throws all the parts into proper perspective. The teacher can afford to spend his best effort and work very cautiously with children while they are struggling with the general thought side of a problem, the effort to get at the main idea or secret that unravels the whole.

This preliminary survey, this effort to get an intelligent grasp of the whole situation is the chief stumbling block in all hard problems. The reckoning processes are comparatively easy. The common complaint is that children do not think; they begin to figure on a problem before they have clearly grasped its conditions and meaning.

7. Often children fail to read a problem intelligently. So they need a lesson in reading, in thought interpretation, before putting pencil to paper. This also involves clear imagery as a basis, and to aid this we use diagrams or other modes of appeal to the imaging power.

8. The cultivation of self-reliant power in solving new problems has long been regarded as a peculiar virtue of arithmetic. To fail in this is therefore a radical failure.

9. One important time for review drills is the beginning of each term. "Complaints which teachers generally make of poor work in the preceding grade are not infrequently due to the one complaining; the engine is rusty, and it needs oiling before the serious start is made." (Smith.) In most grammar grades children will be found rusty in what they have been over, and it is wiser to clean up and scour up the old armor than to plunge forward heedlessly into new conflicts.

10. It is necessary sometimes to put the stronger pupils at work independently on advanced or special lines, and meanwhile to devote much time and care to slower pupils. Give quicker, abler pupils enough to do, and allow slower pupils time to think according to their knowledge and brain power.

11. Teachers of arithmetic sometimes forget that children have emotions, and the more their emotions are unpleasantly agitated, the less capable they are of strenuous and exact mathematical thinking.

12. The grammar grades furnish the most varied opportunities for reviewing, mastering, and applying all the elementary processes.

13. Arithmetic in these grades should emphasize the application of familiar processes of reckoning to the whole range of important topics in the school course which require numerical interpretation. Without this illumination from mathematics many im-

portant facts and bodies of knowledge in business, in geography, history, natural science, and in economic life remain hazy and unintelligible. Many of the large topics in history, science, and geography require a mathematical interpretation by means of a series of relevant statistical problems.

14. The teacher should be flexible and rationally sympathetic in adapting his standards to the varying ability and needs of children.

5. *Nature Study and Science*

In the nature study and science instruction of the common school, teachers and specialists in elementary science have not yet reached a consensus of opinion as to the topics best suited for the grades. The methods of study are also variable.

A few of the simple proposals may be stated as follows :

1. The school by its treatment of nature lore in its various aspects, by means of observations, excursions, experiments in field, laboratory, and garden should produce an environment in which the love of nature grows and flourishes.

2. The primary grades seem to be well adapted to the less formal and less intensive study of nature, by observations on outdoor life, weather charts, spring gardening, etc.

3. Children are to find out the facts largely by their own observation, and even to work out causal relations and think out conclusions on the basis of self-activity.
4. Drawings, notebooks, weather records, and collections may serve to express their growing interest and knowledge.
5. For intermediate and grammar grades a course of study, consisting of well-selected objects and units of thought, is needed as a basis for connected observation and study. The heaviest work should have been performed for the teacher by those who select and arrange this series of lesson units.
6. Presupposing that the teacher has an adequate practical knowledge of these topics, one of the main questions is: how to get the problems of science presented to children so as to bring them to the proper exercise of their independent powers of observation and thought.
7. Every plant or animal is a living mechanism whose organs have been developed and brought into action by the natural forces around it. Nature is therefore full of problems upon which to set children to work to observe adaptations. The machines and inventions of men for the purpose of turning nature's forces into useful channels are also embodied or materialized problems.
8. To ask the pivotal question which centers the

child's observation and thought upon one of these problems and to keep his thought moving in the right direction is the teacher's business. Nature does most of the talking, if the teacher knows how to ask a few appropriate questions.

9. The life histories of plants and animals supply us with many of the leading units of study which furnish a continuous causal development and illustrate many of the fundamental life processes; and machines which embody the practical applications of science to life also furnish a very valuable series of problems.

10. The method of working out one of these problems requires a careful and intelligent observation of the facts, a tracing of the causal sequence running through the whole topic, a comparison with other similar phenomena observed in nature, a derivation of the law or principle illustrated, and a broader survey to comprehend the wider application of this law. Without becoming too formal, the more important studies should follow this movement. A life history of the oak, of the corn plant, of the mosquito, the construction and working of a pump or steam engine, may illustrate this idea of problem solving in nature and in man's inventions.

11. The nature study excursion into the fields, woods, or garden is one of the chief means of opening up the world to children and of giving stimulus and

purpose to other opportunities for observation in the world about them.

12. Upon such an excursion it is well to have some controlling purpose to which observation is chiefly directed, such as the finding and study of song birds, or of some particular bird like the flicker. But general observations of trees and plants, of insects, of weather phenomena, may also come in for a good share of attention.

13. Another important kind of observation is found in dealing with specimens which have been collected for classroom study. The inspection, arrangement, and grouping of specimens brought in by the children and teacher may be carried on so as to develop a knowledge of important groups of objects in nature, *e.g.* trees, insects, wild flowers, and weeds.

14. Sometimes the teacher is overkind to the children in showing them what she sees. It is better for the teacher to keep in the background and to encourage the children to hunt out things worth seeing, dropping a hint here and there to guide their observations.

15. In making experiments in the laboratory, forethought should be exercised by the teacher in providing the necessary apparatus and equipment for successful experiment or in directing the children to do so.

16. Often a diagram is the easiest and simplest

method of presenting the fundamental idea, especially when the inner forces in the process are not visible, as in the steam engine, and in the circulation of the blood.

17. The nature study and science teacher should be expert in the use of graphic modes of illustration, such as sections, working drawings, diagrams, models, and apparatus. Many devices are necessary to objectify and make tangible the teachings of science, *e.g.* the blackboard is employed to illustrate the parts and arrangements of flowers, and seeds, the growth of trees, the parts of insects, etc.

18. The question, to what extent teachers in science lessons should present to children facts not capable of presentation to the senses, brings up an interesting problem. The wild duck cannot be followed toward the pole except in imagination. The unit of instruction which requires to be cleared up as a whole, must determine to what extent these facts beyond the child's observation are to be drawn upon.

19. The underlying continuity of science lessons through the grades is an important question for the future. Elementary science lessons group themselves around a few centers, — the home, the school, the garden, the woods, and home fields. The recurring seasons and years bring these topics into fresh review, and help to establish this unity. Correlation with other studies also aids to unify the scattered facts.

6. *History*

1. In primary grades there is no regular instruction in history. But in celebrating holidays like Thanksgiving, the Lincoln and Washington birthdays, we use the appropriate stories as a prelude to history.

2. In fourth and fifth grades we employ chiefly the pioneer history stories of our own country and of the great navigators and explorers, like Columbus and Magellan. The hero stories of other countries, as Bruce of Scotland, Alfred of England, Cincinnatus, Ulysses, and David, should also find place in the reading or history lessons.

3. The oral treatment of these stories should be developed as a distinct art. The rough adventure and realism of pioneer life, its hardships and heroism, should stand out plainly in vivid narrative and description. In history the real presentation largely takes the place of the object in natural science studies.

4. In each of the grades (fourth and fifth) a half dozen of the more important stories, like those of John Smith, Champlain, Lincoln, George Rogers Clark, and La Salle, should be elaborately worked out in oral lessons, using maps and blackboard sketches, pictures of frontier life and scenes, forts, flatboats, log houses, costumes, weapons, modes of travel, home life, and customs.

A child's introduction to history through oral

treatment becomes thus strong and real ; he forms the habit of imaging actions and situations and feels a keen interest in these stalwart characters. This teaches him how to construct and realize historical scenes.

5. Presupposing such an introduction into the realism of history, the children are prepared to read and interpret other similar stories for themselves. In this manner only half the stories would require a full oral treatment by skillful instruction. The children should learn to use the books and work out clearly for themselves the other stories.

6. The geographical basis for these stories, displayed in blackboard drawings and maps, should be unmistakably clear. The teacher should accustom himself to sketch maps and diagrams freely on the board, while presenting topics. Let the children later do the same.

7. The teacher's mind should shape up the story into a series of unities or distinct topics, each of which has a central point with a body of associated facts which find their meaning in relation to this center.

8. As each topic is presented by the teacher, discussed and reproduced by the children, it should be distinctly phrased and placed as part of an outline on the board. This outline of the whole story, preserved in some permanent notebook form, becomes the basis for reproductions, comparisons, and final reviews.

Teachers usually have much difficulty, at first, in making and in adhering to such clear and definite outlines. The power to get at the essential segments or pivotal points in the story is a logical training for the teacher and is worth all the trouble it costs. Without it the whole treatment falls more or less into confusion.

9. Under a teacher who will do this, children cannot fail to be trained into logical and rational modes of thinking.

10. Adequate reproduction of the story by the children, sometimes oral, occasionally written, is indispensable. Complete sentence construction and connected discourse, with but little suggestion or question by the teacher, make the true standard of requirement.

11. Good oral instruction is a doubly difficult art, requiring masterly work on the teacher's part and a masterly response on the part of the children. When well done, it stimulates interest and attention, develops logical thinking power, stirs up self-activity in thought, and brings ideas into good language expression.

12. History stories, when clearly thought out, have in them a natural logic. They trace out a causal, chronological sequence. Every good story is a series of problems, each one leading on to the next. The story of the Lewis and Clark expedition is a string of adventurous problems, a succession of acute situa-

tions, calling for ingenuity and good judgment in meeting new and strange difficulties. Keen foresight and thoughtful adjustment are in constant demand. What a chance is this for setting children's thoughts free to struggle with difficulties !

13. One peculiar advantage of the pioneer stories is that the situations are simple and crude, such as a child can grasp. Stories taken from later, more complex, topics are not so easy to work with. They belong to a later period of history.

14. These stories deal with typical situations and admit of a wide range of comparisons, an important means of self-reliant thinking, *e.g.* compare Frémont with Lewis and Clark ; George Rogers Clark with Cortez ; Columbus with Magellan ; Washington with Lincoln.

15. There is no fixed order in the arrangement of frontier stories. Chronology is relatively unimportant. The main requirement is that of a complete, well-rounded story, with a rich setting in life, and a strong exhibition of character.

16. When we begin with the settlement of America and the colonial period, we take up history in its orderly and systematic development, including chronological sequence.

17. In the colonial period we meet men (and colonies) who represent those important ideas that have continued to develop through our whole history and

are still operative. These ideas, in their growth, give us a basis for strong continuity of thought in the course of study.

18. The big units in the colonial period have been selected with much care, and each should be presented in a large, comprehensive, and luminous description. A full treatment of two or three leading topics of each of the four principal colonies, with plenty of time for description and biographical detail, is better than a more condensed and uniform treatment of all the thirteen colonies.

19. A few of the leading biographies, such as Winthrop, Penn, Franklin, and Berkeley, are worthy of full descriptive treatment as a means of graphic, almost dramatic, presentation of colonial happenings. Biographies of real leaders are good centers of organization.

20. The completer study of four or five colonies, one after another, furnishes an uncommonly good test of the plan of reviews by comparison. Such a study brings children into close touch with the natural development of American ideas. It is a good illustration of inductive method.

21. In all later studies children should be allowed to trace back the causes, to return again and again to former studies, and to pick up the threads of connection between past and present. The study of the past should lead up to and explain the present.

22. Throughout the colonial studies it is necessary to go deeper into the causes of emigration from Europe, the religious persecutions, the desire for colonial expansion, and into conditions of life and government among the Old World states that first peopled America. The first half of many leading topics lies in Europe.

23. In the study of the colonies, children should learn to use books of reference, biographies, source materials, maps, and chapters or extracts from the larger histories, such as Irving, Fiske, and Bancroft. Children must be taught systematically how to use books and references.

24. In describing the customs and character of people in different colonies, a picturesque variety is found among the sober Puritans, the mirth-loving French, the solid Dutch, the broad-brimmed Quakers, the Germans, and Scotch-Irish, to say nothing of Indians and Negroes. We hardly need to go abroad to find richness and variety in life.

25. As the leading colonies are studied one after another and compared in their struggle with Royal governors, in their developing constitutions and modes of government, and as the closer relations of the colonies with each other slowly develop, we come into close touch with the natural growth of American ideas.

26. In teaching any of these larger topics, abundant and well-organized knowledge is the first essential.

27. The regular reading work of the schools, by selections from "The Courtship of Miles Standish," "Grandfather's Chair," and other similar literary materials, will contribute much to the enlargement and enrichment of history studies.

GRAMMAR GRADE HISTORY

1. The period from 1760, with the withdrawal of France from America, to 1789, when our federal Constitution went into effect, deserves a full year's study in the grammar school.

2. A few leading topics of fundamental importance for this period can be selected for enlarged treatment, to serve as centers of thought and as types of historical method in elementary study.

3. The biography of Samuel Adams during the eleven years preceding the battle of Lexington is a good center upon which to focus the study of causes leading to the Revolution. Adams was such a complete representative and molder of New England spirit, that his biography gives the very essence of the struggle against England. Then compare him and his work with that of other leaders in New England, in the Middle and Southern colonies.

4. Burgoyne's Invasion is a good example of a large historical topic, complex in its relations but simple in its basal idea. A full descriptive account of this campaign would acquaint children with the

difficulties, surprises, horrors, and shrewd forms of strategy in military movements. A study of its results is wide-reaching in import.

5. The person and influence of Washington are the central point of interest and of interpretation for the leading topics of the war.

6. Benjamin Franklin's career in France during the war is not only picturesque and interesting, but it is also the point of view from which to judge the European situation. By his bringing France into coalition with the Colonies, the whole aspect of the war was changed and final success made possible.

7. The life of Robert Morris is the best center from which to study the distressing financial difficulties of the Revolution.

8. The Convention of 1787 furnishes material for studying one of the most interesting and important events in the world's history. For children, one of the simplest modes of comprehending it is to study somewhat carefully a few of the leading men in the convention, so as to get the strong individualistic point of view of each. In this convention all the most powerful tendencies of American history, with their roots deeply embedded in the past, were represented. By reviews and comparisons let the children discover that much of the previous history of the country, in essence, is registered in the Constitution.

9. The Revolutionary history gave rise to much

of our best ballad literature, and to many of the orations which have become standard expressions of the patriotic American spirit.

10. The problem for the teacher in dealing with this period of our history is to collect and organize the complex and abundant material of these central topics. This involves the proper use of textbooks and of reference materials.

11. The proper class discussion of such topics involves, first, the determination of the main heads in proper sequence; second, the grouping of details, facts, and descriptions around these heads; third, the reflective study of causal and logical relations; fourth, comparisons on the basis of likenesses and differences.

THE CONSTITUTIONAL PERIOD

1. How to deal wisely with a few large topics of the constitutional period is the problem of the last part of the grammar school.

2. Most of these large topics have a continuous, causal sequence extending through this whole period. For example, the growth in territory up to the present, the expansion of slavery and the negro problem, immigration with its successive changes and increasing importance, the westward expansion of population, trade and production, inventions, etc.

3. The continuity, the causal sequence of development in each of these large topics, should be main-

tained, in spite of the growing complexity and intricacy of our more recent history.

4. The gigantic growth and progress of our nation in its larger, more important aspects should be clearly demonstrated. The spirit of the people, the representative men, and the dominant ideas which lie at the basis of this remarkable growth are to be clearly set forth.

5. By following up these main topics consistently through our history, boys and girls will find that our present problems are merely the continuation of these long-developing ideas and issues. One leading purpose is to understand the present in the light of the past.

6. We must take time to elaborate these large topics, to gather up and organize a body of facts sufficient to bring out the full, clear meaning of each of these continuously expanding ideas or principles. The quick hothouse methods of memorizing a series of important facts, an epitome of American history, is thoroughly artificial and unproductive.

7. In the eighth grade we have the best opportunity for careful reviews by means of systematic comparisons of later events with those studied in earlier periods. For example, modes of travel to-day, on steamboats and railroads, may be compared with riding by horseback or in stagecoaches in colonial times and later. To keep children thoughtful in see-

ing resemblances and contrasts between the earlier and later events is the true method of rational and interesting review.

8. The opportunity for problem-solving is furnished on a large scale in our later history; *e.g.* when Hamilton took charge of the treasury under Washington, he had the great problem of restoring credit and of establishing a sound financial system for the new government just starting out on its great career. Let the children join with Hamilton in working out this problem.

9. The history taught in the eighth grade should be a constant commentary on the Constitution. The history of the last hundred twenty-five years has been a series of practical tests of the strength and flexibility of the Constitution in meeting the demands of a rapidly growing country. This is the best method for the study of civil government.

10. In the eighth grade, as in earlier years, there should be a concentration of study upon a few of the great biographies, such as Hamilton, John Quincy Adams, Daniel Webster, Lincoln, and Fulton.

11. A well-organized textbook containing a simple introductory treatment of the more important topics will furnish the general framework for the reception of fuller material from other sources, from larger special histories, from biographies and source books, and from special contributions by the teacher. A

good textbook is invaluable as a guide through the labyrinth of history.

12. In the assignment of the lesson we should pave the way for a more intelligent and interesting study of the textbook and for the proper selection and use of references, sources, etc.

13. Chronology offers a necessary framework within which to arrange the materials of history. The grouping of history into periods and epochs is valuable, and the concentration of events around a few important dates is advantageous.

14. "A successful teacher must have more than mere accurate information and professional knowledge. He needs to have a living sympathy with the tale he tells. He must know how to bring out the dramatic aspects of the story." (Report of the Committee of Seven.)

7. *Music*

I. *From the teacher's point of view:*

a. It must be remembered that singing is but one form of voice expression. The elements of this form are time, pitch, quality, and force; and upon these elements and their variations is based the art of teaching vocal music to children.

b. There is a vast difference between learning a

song that one may sing it well, and learning a song that one may teach it to children.

- c. The teacher needs to acquire the power of judging and choosing those songs best suited to the children. A child's song should be simple, bright, and happy, both in word and melody. Above all, the thought must be interesting and worth while.
- d. The teacher in starting a new song must know: (1) the key of the song; (2) upon what note the song begins; (3) how to keep the time; (4) method of approach and attack upon the new elements presented in this particular song; (5) method of closing the day's lesson upon this song.
- e. Since singing is, as has been indicated, one form of vocal expression, attention must be given to the interpretation of the thought and motive which lie back of the song, as well as to the bare technique of the notes and their rendition.

II. *From the pupils' point of view:*

- a. There is but one correct singing position — erect. Likewise there is but one position for the books.
- b. Children must learn to listen for the tone — C above middle C — always given softly

by the leader. In the upper grades children should be taught to find all keys from this C.

- c. Children should sing softly and within the compass of their voices. Under these conditions there is but little danger of singing too much. Children's voices are usually limited to the lines and spaces of the staff. The mouth must be well opened, and the lower jaw should drop easily. Constant practice with open vowels to secure the natural use of the lips and jaw will be of much help.
- d. Do not let children sing with expressionless faces. Make them enjoy the song and the singing of it, whatever the cost. It may be well to stop in the midst of a song and engage pupils in conversation to the end that naturalness may be secured, and that the strained and contracted throat tone may be relieved.
- e. With monotones, work upon the basis of the natural speaking voice. Let the child imitate whistles or steam cars, play Indian, cuckoo, wind ; as a last resort, hum.

III. *The movement in teaching a song:*

In all good teaching the movement is concerned, first, with the concreting of the central ideas ;

second, with the abstracting of these worthwhile units; and third, with their comparison. This holds as true in music teaching as in the teaching of other subjects. Each rote song represents a thought unit, and in the mastering of these rote songs and similar exercises there is acquired a large stock of concrete materials; for example, knowledge of time, pitch, key, notation, phrasing, etc., through the entire gamut of elementary technique. This vast mass is valueless as it stands. It becomes of the greatest importance, however, the instant we abstract from the heterogeneous stock those essentials which go to build up a well-balanced, symmetrical organization known as a song, which is always a central idea itself or is representative of it. Other central ideas or songs are eventually mastered, and these afford bases of valuable comparisons. In brief, then, the movement in teaching vocal music to children is from the rote song with its wealth of concrete detail to the completed idea which we know as a purposeful song. Accordingly, we shall concern ourselves first with the acquisition of the body of preliminary knowledge.

CONCRETING THE IDEA

The first requisite toward the attainment of a valid stock of music experiences upon which to base the work is in the training of the ear. Ear training has three stages or phases: observation, recognition, and reproduction.

1. *Observation.* — If children are taught to listen to certain definite sounds (whistles, birds, singing, etc.), they will soon observe something as to the "upness" and "downness" of tones; also the kind of tone (high or low, shrill or sweet; long or short; far or near). How does the bird sing? the whistle sound? the bee? etc. Sing to the children; how many long sounds? short? Did you sing up or down?

2. *Recognition.* — Sing songs they know (humming). Play songs on the organ, and see if the children know them. Give the children *do*, and then play separate notes on the organ. Have the children give you the syllables.

3. *Reproduction.* — The last step in ear training is writing the melody on the staff. This should be followed by singing or playing the notes, or by writing the numerals.

8. *Spelling*

1. A careful drill in phonics and in clear phonetic analysis of words throughout the grades is a good

general basis for spelling. For, contrary to the usual notion, the large majority of English words is spelled phonetically, or nearly so.

2. Spelling should be mainly directed to the mastery of common words in daily use, such as children ordinarily make use of in composition and letter writing; such words as *thought, said, stayed, believe, although, once, knife, aid, which, till, repeat, price, idea, sentence, freeze, drown*, etc.

3. Words of rather uncommon occurrence, or those used only in literary writings, as of Irving or Macaulay, may be overlooked, e.g. *surmised, acquiesce, incessantly, designated, apprehension, mysterious, precipitation*, etc. At any rate, the emphasis and drill should be placed on the common words.

4. The chief rules of spelling, and those governing the formation of plurals, should be fully illustrated, memorized, and applied until correct habit has been formed.

5. Spelling exercises should be chiefly executed in writing as the final and common form of application.

6. Good standards of correct spelling should be maintained in all kinds of written work in other studies, in composition, letter writing, etc.

7. Drills are needed from time to time in the correct spelling of common geographical and historical names.

8. Teachers should practice the distinct articulation of words in giving out spelling lessons.

9. In learning new and difficult words point out and emphasize the peculiar difficulty of each new word.

9. *Drawing*

1. The art of drawing, when applied to sketching and blackboard illustration in other studies, is of great value in many ways.

2. Even without a knowledge of the technique of drawing, teachers of geography, history, science, and other studies may use the blackboard freely for sketching and diagramming to great advantage.

3. On the other hand, students who have had full courses in drawing appear to be slow and hesitating in applying this very useful art to the other studies. This fault seems to show a lack of courage to launch out into the use of an art in new situations.

4. Many ideas can be more quickly and clearly presented to children by means of a drawing than in any other way. A simple drawing placed on the board in half a minute will clear up a difficulty better than a long verbal explanation or description.

5. Free-hand sketching on the blackboard in connection with nearly all studies is an indispensable means of prompt and clear illustration, and of economy of time in teaching.

6. The teacher's example in the free use of the black-board before the children in sketching and illustrating points is quickly taken up by the children through imitation, and becomes a very important means of expression.

10. *Writing*

1. Board writing in primary grades should be with a large swing, free from small cramp.

2. The letters should be made round, full, and plain.

3. The teacher's board writing in movement and form should be a contagious example for the children.

4. Children's early writing on paper calls for a free movement and large hand in broad spacing.

5. In intermediate and grammar grades, children are to be steadily and consistently trained in position and free arm movement, until a reasonably correct form is gained.

6. Small, cramped writing and finger action should be avoided by constant encouragement to arm movement.

7. If several teachers in succeeding grades follow the same plan of easy arm movement, the habit can be formed.

8. The written work of children in language exercises and in other studies should be quietly held to a good standard of neatness and care.

9. Steady and consistent effort through the grades following a common purpose and method are necessary to establish good habit in writing.

11. *The Manual Arts*

1. The purpose of the manual arts is to equip children with the controlling ideas and experiences of the primary industrial arts.

2. In working out any unit of construction or concrete object, correct thinking on the basis of facts is the first essential. A correct plan of construction presupposes full knowledge of the principles of construction and clear foresight into practical conditions. It is a strenuous and progressive thought problem.

3. The execution of a well-formed plan requires some degree of skill in the use of tools and also some knowledge of materials.

4. The early constructions of children are necessarily crude. Through the grades there should be a gradually improving standard of skill in work and of excellence in the product. A high degree of skill and accuracy in any art is not required in the elementary school.

5. In executing complete projects of construction, as a table or book or bonnet, there is an excellent chance to encourage self-reliance and initiative and

practical sense in dealing independently with tools and materials.

6. Orderliness in the use and care of tools and materials in shop work is of primary value.

7. The choice of artistic in preference to inartistic forms in children's constructions should be steadily cultivated.

8. The school should encourage the practical application of manual skill and knowledge to other studies and to school and home problems and needs.

9. Problems of construction furnish excellent concrete types of correct method in teaching. Teachers generally can well afford to acquire some skill and practical acquaintance with the processes, tools, and materials of the primary arts.

12. Cross Applications of Knowledge between Studies

1. As soon as children have learned to read, at the end of the third or fourth grade, they should be held to a vigorous use of this ability in other studies. Teachers should see to it that they interpret keenly and express fittingly whatever they read. In this sense, all lessons become applied reading, reading put to its real uses.

2. If we could see to it that children in the intermediate and grammar grades apply their reading power to history, arithmetic, and other studies, with

lively appreciation and with full natural energy based on a sense of value, we could almost dispense with regular reading exercises.

3. In this sense the actual reading of the problem in arithmetic, or of a paragraph in history, is a demonstration that the child has clearly thought the thing out, has indeed already performed the main step in a thought process. On the other hand, dull, unresponsive reading is proof that the child's mind has no appetite for the subject.

4. Language lessons are a device for teaching children the correct usages in English, and for starting them along right lines. But these beginnings of habits, made in language lessons, are to be strengthened and matured by close attention to correct language in all the other studies. Every subject either builds up and strengthens a child's language power, or else it weakens language by confirming him in faulty usages. Since language is the chief medium of expression in all studies and throughout life, a steady consistency in requiring correct usage is a basal necessity.

5. Drawing and sketching, in simple, illustrative ways, should be generally applied, as a means of expression, in all kinds of school studies. Freedom and versatility of expression by graphic devices are extremely valuable to teachers, and children easily drop into these modes by imitation. This applica-

tion of motor activities to other studies clarifies and reënforces thought in a quick and economical manner.

6. The constructive activities of the manual arts, when applied to geography, and history, and science, and even to literature, in reconstructing objects and scenes, are a powerful means of realization.

7. Spelling and phonics, as phases of language, are of universal application. They are a basal element in all clear oral speech, and spelling is the basis of correct form in written work. The early inculcation of correct habits, and persistent care throughout the grades in maintaining them in all studies, point out the only road to efficiency.

8. Geography and history are so closely linked together that neither can avoid a constant dependence on the other. History without maps and physical conditions would be very lame, and geography without historical introductions and associations would lose its background and much of its meaning. Geography is also closely bound up with natural science and mathematics, and its names are derived from all the varied languages of the earth. Much of the best literature is geographically conditioned. Geography connects up in vital ways with nearly all studies and best illustrates the necessity for frequent excursions back and forth between the studies.

9. The numerous ways in which nature study and science are applied to other studies and contribute to

their better understanding make necessary a constant interpretation of other studies from a basis of scientific knowledge; *e.g.* applied science interprets most of our modern inventions and industrial processes, our sanitary improvements, etc.

10. Even arithmetic is becoming a social study, furnishing the thought processes and modes of calculating by which we estimate values in history, geography, science, and, more or less, in all natural and human affairs.

11. The imperative need for applying knowledge and habits gained in one study to other studies appears to be universal. We may well draw the conclusion that the knowledge gained in one study is chiefly valuable because it can be applied to the interpretation of other studies. Knowledge gained in one study and not applied to other studies fails to function and is scarcely worth the trouble of acquiring.

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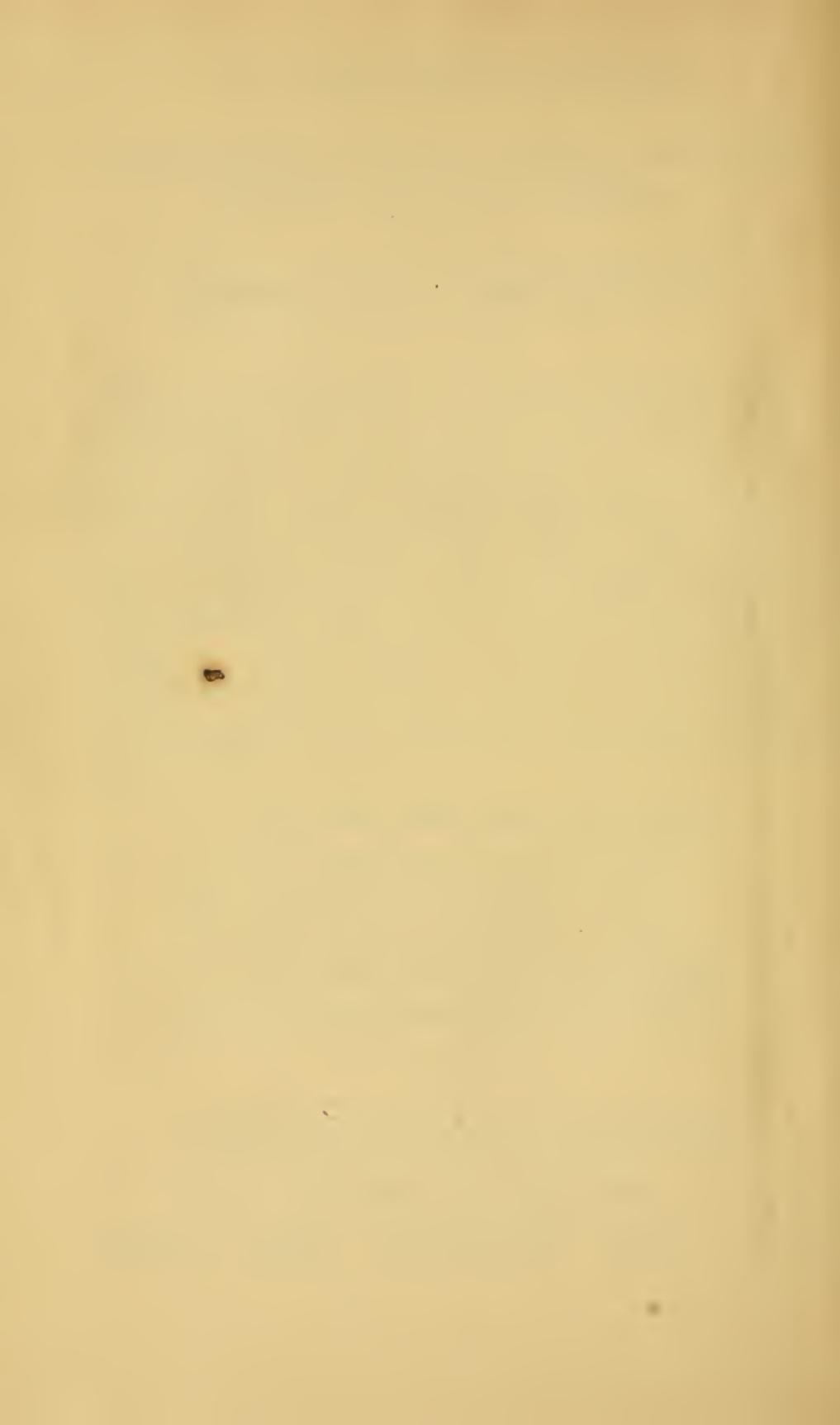
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